CURTIS'S
BOTANICAL MAGAZINE,

COMPRISING THE

Plants of the Royal Gardens of Kew,

AND

OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;

WITH SUITABLE DESCRIPTIONS;

BY

SIR WILLIAM JACKSON HOOKER, K.H., D.C.L. Oxon.,

LL.D., F.R.S., and L.S., Vice-President of the Linnean Society, and Director of the Royal Gardens of Kew.

AND

OBSERVATIONS ON THE CULTURE OF EACH SPECIES;

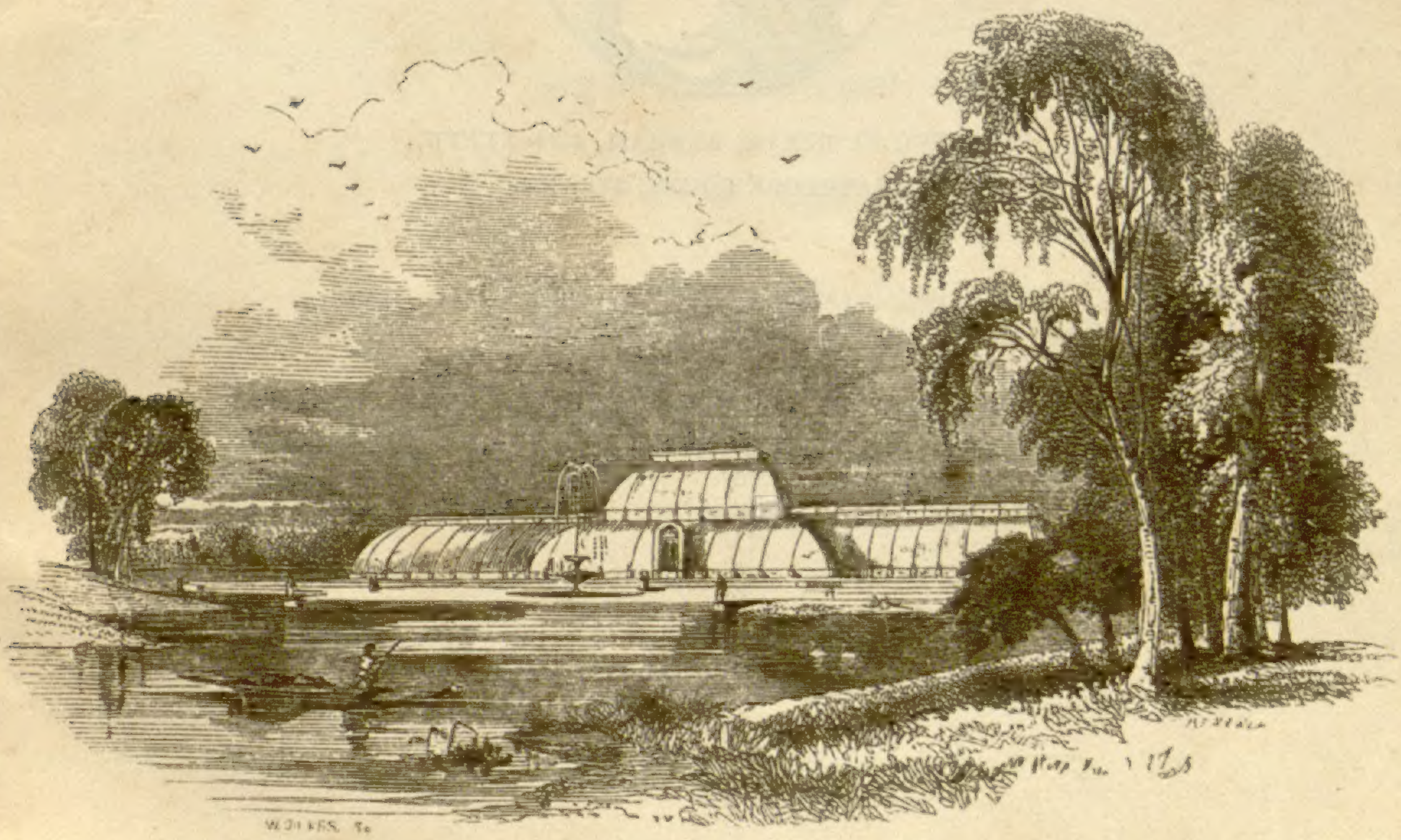
By Mr. JOHN SMITH, A.L.S.,

Curator of the Royal Gardens.

VOL. V.

OF THE THIRD SERIES;

(Or Vol. LXXV. of the Whole Work.)



"The man
Whom nature's works can charm, with God himself
Holds converse."

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TO

SIR LAURENCE PEEL, K.B.,

&c., &c., &c.,

Chief Justice of the Supreme Court of Calcutta,

WHOSE BEAUTIFUL GARDENS ON THE BANKS OF THE HOOGLY

STAND UNRIVALLED

AMONG THE PRIVATE ONES OF INDIA;

AND WHOSE HOSPITALITY THERE IS PROVERBIAL;

THE PRESENT VOLUME

IS DEDICATED,

WITH SENTIMENTS OF THE SINCEREST REGARD AND ESTEEM,

BY HIS FAITHFUL AND OBEDIENT SERVANT,

W. J. HOOKER.

Royal Gardens, Kew,
Dec. 1, 1849.

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Fitch, del. et lith.

R, B & R, imp

Tab. 4417.

CEREUS Leeanus.

Mr. Lee's Cereus.

Nat. Ord. Cacteæ.—Icosandria Monogynia.

Gen. Char. Sepala numerosissima imbricata, basi ovario adnata, in tubum elongatum concreta, exteriora breviora calycinalia, media longiora colorata, intima petaliformia. *Stamina* numerosissima cum tubo concreta. *Stylus* filiformis, apice multifidus. *Bacca* areolata, sepalorum reliquiis squamata aut tuberculosa. *Cotyledones* acuminatæ.—Frutices *carnosi, subglobosi, v. elongati, stricti, articulati v. repentes, axi ligneo interne medullifero donati, angulis verticalibus, spinarum fasciculos gerentibus vel inermibus, regulariter sulcati.* Anguli *seu* alæ *nunc plurimæ, nunc paucissimæ, rarius duæ tantum, et tunc rami compresso-alati, inermes.* Flores *ampli, e spinarum fasciculis lateralibus trunci aut ramorum vetustiorum, aut crenis angulorum orti.* Fructus *oviformes, plerumque anno sequente maturescentes, edules. Pfeiff.*

Cereus *Leeanus*; erectus subpedalis conico-cylindraceus, subacute 12–14-costatus, areolis approximatis pulvinato-tomentosis sub-12-spinosis, spinis v. aculeis acicularibus valde inæqualibus strictis fuscis, exterioribus 2–3 lineas longis, centrali unciali, floribus subterminalibus speciosis lateritio-sanguineis, squamis calycinis apice viridibus setosis, petalis obovato-oblongis acutis.

Presented to the Royal Gardens by Mr. Lee of the Hammersmith Nursery, who received it from France, as an unknown species, native of Mexico. If published, it would be no easy matter to recognise it from description alone. It is only by good figures, taken from perfect flowering specimens of the living plants that we can hope to make known the distinguishing feature of the individuals of this singular family. The present species is among the most beautiful, a free bloomer, and its blossoms are large and showy.

Descr. Our *plant* is nearly a foot in height, about four inches broad, tapering upwards, from a nearly cylindrical base, hence somewhat conical, the summit being the narrowest part: it is furrowed throughout its length rather deeply and acutely, forming elevated, rather sharp ridges or angles, which are studded at short intervals by small, dense, cushion-like tufts of wool, bearing the cluster (about twelve in a cluster) of sharp needle-

shaped *aculei*, straight, very irregular in length, the outer series being the shortest, and gradually lengthening, till the central, longer and shorter than the rest, is about an inch long. At and near the summit, four or five large, handsome, brick-red (inclining to blood-coloured) *flowers* are produced. The tube (constituting the *calyx*) is green at the base, then yellowish orange, clothed with oblong fleshy scales (*sepals*), acute, tipped with green, and bearing at the point a tuft of aciculi or bristles. These scales pass rather suddenly into *petals* of an oblong-obovate-acute form, spreading and imbricated. *Stamens* numerous, rather longer than the tube. *Style* columnar. *Stigma* green, of many erect or connivent rays. *W. J. H.*

Cult. The general practice with cultivators of *Cacteæ* is to grow them in poor soil, composed of light loam, mixed with siftings of lime-rubbish, and some sharp sand, giving them but little water, and keeping them in a moderately warm and dry atmosphere; during the winter, this treatment being in imitation of the natural climates of the plants, may be considered in a general view to be correct; but other elements peculiar to climate are wanting, before we can be said to place the *Cacteæ*, or any other exotics, under the same influences by which they are supported in their native localities. It is quite true that we are able to produce an artificial climate, so far as temperature and the hygrometric state of the atmosphere are concerned; but there are influences derived from the proximity of the sea, of certain geological formations, and of the greater or less elevation of extensive plains in connection with particular latitudes, which, with all our contrivance and appliances, we are unable to obtain to any extent. As *Cacteæ* inhabit many climates, growing in the hottest and most exposed arid places within the tropics, and ranging within 40 to 50 degrees of latitude on either side of the equator, it is impossible to lay down any other rule for their cultivation in our gardens than an approximate one.

The modifications of this rule relate principally to temperature. The *Cereus Leeanus*, being a native of the north of Mexico, needs only to be protected during the winter from severe frosts: it has been known to bear several degrees of frost without injury. As spring advances it should receive some artificial heat and moisture, in order to get it into early growth, by which to ensure its flowering. Towards autumn it will be benefited by full exposure to the sun with plenty of free air, gradually decreasing the supply of water as the winter approaches.

In respect to the soil, we have found, other circumstances being favourable, that *Cacteæ* are not very particular, provided it is a soil not retentive of moisture. *J. S.*

1.

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Ficth del et lith

R.B & R imp

Tab 4418

CIRRHOPETALUM NUTANS.

Drooping-flowered Cirrhopetalum.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4237.)

Cirrhopetalum *nutans*; pseudo-bulbis ovato-subrotundis rugosis, foliis ovato-oblongis obtusis crassis, scapo erecto elongato, umbella multiflora nutante, sepalis lateralibus longissimis linearibus ligulatis acutis supremo abbreviato acuminato, petalis ovatis acutissimis inferne ciliatis, labello linguiformi recurvo (bicristato, *Lindl.*), columnæ angulis obsolete bidentatis.

Cirrhopetalum nutans. *Lindl. Bot. Reg.* 1839, *Miscell. n.* 18.

We have already given figures of two species of this remarkable genus, *C. Thouarsii* (Tab. 4237) and *C. fimbriatum*, (Tab. 4391), and we have here the pleasure of exhibiting a third, possessing, however, more singularity than beauty. The labellum being loosely articulated moves when the plant is shaken in the slightest degree, or with the action of the wind or the breath. The Royal Gardens of Kew owe the possession of it to Messrs. Loddiges, by whom, it was imported from Manilla, through the instrumentality of Mr. Cuming. It flowered in the stove with us in July, 1848. Dr. Lindley compares it to *C. Wallichii* from Nepal, a species with which we are not acquainted.

Descr. *Caudex* creeping, jointed, striated, rooting, about as thick as a raven's quill. *Pseudo-bulbs* subglobose, sheathed with large, brown, striated scales. *Leaf* solitary, articulated on the pseudo-bulb, subpetiolate, broadly or ovato-lanceolate, obtuse, very thick and fleshy, subcoriaceous, dark green, paler beneath. *Scapes* generally two, springing from the caudex at the base of each pseudo-bulb, long, slender, curved, articulated and partially sheathed with brown *scales* or *bracteas*. *Umbel* of several spreading, pale yellowish *flowers*. *Sepals* porrected, almost closed, upper one small, lanceolate, acuminate, lateral ones very long, linear or strap-shaped, acute, or mucronate, striated. *Petals* broadly

ovate, mucronate, shorter than the upper sepal, ciliated in the lower half. *Lip* jointed unto the decurrent base of the short *column*, lingulate, with thickened edges, recurved, bicristate according to Dr. Lindley, a character which escaped my notice, as did also the obsoletely bidentate angles of the column. *Anther* hemispherical, small. *W. J. H.*

Cult. Being a native of a tropical climate and epiphytal on trees, this orchidaceous plant requires to be kept in a hothouse in which a warm and moist atmosphere can be easily maintained; a medium temperature of 75° in summer, and 65° in winter, will suit it. During the latter season the temperature may be allowed to fall during the night to 60°, or even a few degrees lower, especially in severely cold weather. It is common with plants of this nature, to imitate their natural mode of growth by attaching them to blocks of wood suspended from the roof of the house; but there are many reasons against the use of wood for this purpose; neatly cut sods of compressed sphagnum moss are preferable, and fixing the plant to the sod with small pegs, which are soon superseded by the roots of the plants attaching themselves to the moss: the sod should be suspended near the glass, but great care must be taken not to allow the direct rays of the sun to fall upon it during the summer months; some kind of shade is therefore necessary. The sod should be kept moderately moist by syringing, but during the winter months water requires to be sparingly used, for then the minimum degree of vapour necessary to maintain a healthy atmosphere, will keep the sod sufficiently moist. *J. S.*

Fig. 1. Flower. 2. Column, lip, and one petal:—*magnified*.

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Tab. 4419.

MIRBELIA Meisneri.

Meisner's Mirbelia.

Nat. Ord. Leguminosæ.—Decandria Monogynia.

Gen. Char. *Calyx* 5-fidus bilabiatus. *Legumen* dispermum, longitudinaliter biloculare, sutura utraque superiore præsertim introflexa.—Suffrutices Australasici, *fructu ad* Astragalum, *staminibus et habitu ad* Sophoreas *accedentes.* Folia *ternatim verticillata.* Flores *purpurei. De Cand.*

Mirbelia *Meisneri*; foliis (parvis) flabelliformibus in petiolum brevem angustatis apice inciso-multifidis segmentis spinosis.

Mirbelia dilatata. *Meisn. in Plant. Preiss. p. 76. (not Br.)*

From the collection of Messrs. Lucombe, Pince, and Co., who raised it from Swan River seeds sent by Mr. Drummond, and in whose collection it blossomed profusely in May, 1848. It is a very different species from *M. dilatata*, Br., being smaller in all its parts, more compact, bushy, with denser flowers and denser foliage, and the leaves are broadly flabellate, multifid, with spinous segments. It is a most lovely greenhouse plant, and ought to be in every ornamental collection.

Descr. The *plant*, as hitherto seen with us, constitutes a low bushy shrub, much branched and copiously leafy. *Branches* many-angled. *Leaves* generally ternately whorled, scarcely an inch long, cuneately flabellate, harsh, rigid, dark green, much waved and, as it were, crisped, tapering below into a short *petiole*, the apex in reality three-cleft, and pretty regularly so, but from the undulation this is not at first apparent; the middle lobe is small and simple, the lateral ones multifid, every segment tipped with a spine, directed forwards or backwards according to the undulation. *Flowers* copious, in leafy racemes. *Pedicels* with two opposite, small *bracteoles*. *Calyx* campanulate, downy, two-lipped, upper lip trifid, lower bifid. *Corolla* red-purple, deeper in the lower half of each petal. *Carina* obcordate, with a yellow eye near the base. *Keel* obtuse, about as long as the blunt wings which

conceal it. *Stamens* ten, free. *Anthers* oblong, yellow. *Ovary* stipitate, oblong, tapering gradually into the subulate style. *Stigma* minute, capitate. *W. J. H.*

Cult. This belongs to a tribe of Australian plants, many of which are favourites with the amateur and cultivator on account of the lively appearance which they give to our greenhouses during the spring months. In their native country they present a rather harsh and scrubby appearance, but gay and enlivening the landscape when in flower, the colours being generally blue or yellow. These plants are found chiefly growing on poor soils, but our cultivation would not be very successful if we imitated their native soils too closely; at the same time it must be allowed that the earth which suits them best for pot cultivation, is but poor, though in its use many points of management have to be attended to. Rough peat or heath mould, containing a sharp gritty sand, is suitable for this plant, draining the pot well with sherds, so that no superabundant water remains for any length of time after the necessary waterings, which should be done in the evenings, or mornings in summer, before the sun gains power. Care must be taken to see that at no time the mould becomes quite dry; and during hot weather the pot should be so placed that the sun's rays do not fall upon it. The roots being fibrous and of a dry nature, are very susceptible of any sudden or great changes of temperature. While young, this species should be kept in a cool pit or frame, and as it is naturally inclined togrow up slender and naked, it is requisite to shortern the forward or leading shoots, so as to induce it to throw out side-shoots, in order to form a bushy plant. After a time, however, this must be done sparingly, as the flowers are produced on and towards the extremities of the branches.

The plant is propagated by cuttings placed under a bell-glass, and kept in a cool place for a short time, and afterwards the pot should be plunged in a gentle bottom-heat. *J. S.*

Fig. 1. Flower, with the petals removed. 2. One of the wings of the corolla. 3. The keel. 4. Pistil:—*magnified*.

Tab. 4420.

SCUTELLARIA MACRANTHA.

Large-flowered Skull-cap.

Nat. Ord. Labiatæ.—Didynamia Gymnospermia.

Gen. Char. (*Vide supra*, Tab. 4268.)

Scutellaria *macrantha*; caule basi procumbente adscendente glabriusculo, foliis sessilibus lanceolatis obtusis integerrimis basi rotundatis subglabris ciliatis, floralibus calyce longioribus, racemis simplicibus, floribus oppositis secundis, calycibus pilosis, corollis amplis extus pubescentibus, tubo superne dilatato. *Benth.*

Scutellaria macrantha. *Fisch. in Reichenb. Plant. Critic. v.* 5. *p.* 52. *t.* 488. *Benth. Lab. p.* 436. *Walp. Repert. Bot. v.* 3. *p.* 756.

Scutellaria grandiflora. *Adams. sec. Bunge (non Sims).*

Scutellaria *&c. Gmel. Fl. Sibir. v.* 3. *p.* 228. *n.* 50.

Native of Eastern Asia; extending from Dahuria (Dr. Fischer, Bunge) probably all the way to the great wall of China, where it was detected by Sir George Staunton. Seeds were sent to us from the Petersburg Imperial Garden by Dr. von Fischer; and our plants, raised from them, blossomed in the open border during the summer of 1848, in the Royal Gardens of Kew. It is a truly handsome and perfectly hardy plant, and we would strongly recommend its cultivation *en masse*, on account of its highly ornamental character, and because it continues long in blossom.

Descr. Annual? *Stems* decumbent at the base, then erect, branched upwards; *branches* four-angled, glabrous. *Leaves* spreading, opposite, lanceolate, a little inclining to ovate at the base, obtuse, glabrous, the margins a little downy or ciliated, the upper ones narrower and smaller, the upper floral ones shorter than the flowers, but much longer than the calyx. *Flowers* in large terminal spikes or racemes. *Calyx* downy, as in the genus. *Corolla* large, rich purple, geniculated in the lower part of the tube, downy, *limb* two-lipped; upper *lip* convex, three-lobed, lower *lip* broader, nearly plane. *Stamens* in-

cluded. *Ovary* four-lobed, glabrous, substipitate and arising from a large gland. *Style* included, filiform, a little thickened upwards; *stigma* acuminate. *W. J. H.*

Cult. A neat growing, hardy, herbaceous plant, which will grow in any good garden soil It is well adapted for cultivation amongst pot-collections of alpine plants, and is propagated by division of the root and by seeds. *J. S.*

Fig. 1. Flower. 2. Gland and pistil:—*magnified.*

Tab. 4421.

HETEROTRICHUM macrodon.

Long-toothed Heterotrichum.

Nat. Ord. Melastomaceæ.—Decandria Monogynia.

Gen. Char. Calyx tubus ovato-globosus, *limbus* 5–8-fidus lobis persistentibus basi late dilatatis apice subulatis elongatis. *Petala* 5–8 ovalia. *Stamina* 10–16 æqualia, *filamentis* glabris, *antheris* oblongis basi vix gibbis apice 1-porosis. *Ovarium* glabrum apice umbilicatum. *Stylus* cylindraceus. *Stigma* punctum pruinosum. *Capsula* baccata 5–8-locularis globosa calyce coronata.—Frutices *Americæ tropicæ.* Rami *teretes* petioli paniculæ *et* calyces *setis vel pilis hispidi et pube stellato-tomentosa inter setas intermixta velutini.* Folia *petiolata superne setosa subtus in nervis hispida, inter nervos velutina.* Cyma *terminalis trichotoma umbellata.* Flores *albi aut purpurei. De Cand.*

Heterotrichum *macrodon*; octomerum, ramulis petiolis cymisque pilis longis fulvis copiose vestitis, foliis oppositis inæqualibus cordato-ovatis acuminatis serratis 7-nerviis, cymis plurifloris, staminibus 16, petalis obovato-cuneatis.

Heterotrichum macrodon. *Planch. in Hook. Herb.*

Octomeris macrodon. *Naudin in Ann. des Sc. Nat. Ser.* 3. *p.* 53.

A remarkable and very handsome Melastomaceous plant, the leaves beautiful from their velvety clothing, and the large white flowers in terminal corymbs, which are produced in succession for many weeks together. M. Funck's original specimen from Caraccas is in my Herbarium, and Mr. William Lobb sent seeds of the same species from New Grenada to Messrs. Veitch and Sons of Exeter, to whom we are indebted for the possession of it at Kew. The genus *Octomeris*, established by Naudin, seems in no way different from *Heterotrichum*, DC. The species flowers in the autumn in the stove.

Descr. A *shrub*, seven to nine feet high, but flowering readily when scarcely one-fourth of that size. *Branches* terete; younger ones herbaceous, everywhere, as well as the long petioles, peduncles, pedicels, and calyx, clothed with spreading, long, tawny, or rufous hairs. *Leaves* opposite, ample, but very unequal (one large and one small in each pair), cordato-ovate, acuminate, regularly dentato-serrated, seven-nerved, the veins united by transverse ones, and these again by transverse veinlets;

above rich velvety green, below paler, with stellate down, and the veins prominent, villous. *Cymes* terminal, of ten to twelve *flowers* of the size and colouring of those of the Horse-Chestnut. *Calyx-tube* campanulate, pale green, tinged with deep red above, the limb expanding, membranaceous, eight-toothed; teeth long, linear, hispid. *Petals* eight, obovate, imbricated, pure white, red at the base. *Stamens* sixteen. *Ovary* conical, ovate, the base adherent with the base of the calyx, eight-celled. *Style* thick, columnar, inclined, shorter than the stamens. *Stigma* orbicular, obscurely lobed. *W. J. H.*

Cult. Within our recollection it was customary to grow all *Melastomaceæ* in light peat soil, the same as was then used for Heaths; but as it is now ascertained that the family is very numerous and widely spread, the great mass of species inhabiting tropical America, having very various habits and places of growth, it could not be expected that cultivators would in all cases be successful by using only one kind of soil. As it is known that some species grow naturally in very hard clayey soil, this want of attention to the nature of the plants may in a measure account for the paucity of species at this time in our gardens. The present one thrives well in good light loam; it should receive plenty of pot-room; the shoots require to be occasionally stopped in order to keep the plant from becoming naked below, but in houses where there is little space, it will be best not to encourage it too much; and as it is readily propagated by cuttings, it is advisable to have a succession of young plants ready to replace the old ones as they become naked, which they will do after a time. *J. S.*

Fig. 1. Calyx and pistil. 2. Section of ditto. 3. Transverse section of ovary. 4. Stamens:—*magnified.*

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Fitch. del. et lith

Tab. 4422.

CIRRHOPETALUM Macraei.

Mr. M'Rae's Cirrhopetalum.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4237.)

Cirrhopetalum *Macraei*; pseudo-bulbis ovatis lævibus, foliis solitariis oblongis acutis in petiolum attenuatis, scapis folio longioribus, racemis vix umbellatis laxifloris, sepalis lanceolatis acuminatis lateralibus longissimis supremo apice acuminatissimis incurvo, petalis ovatis acuminatis, columna utrinque alata apice longe bidentato, labello ovato-acuminato carnoso recurvo.

Cirrhopetalum Macraei. *Lindl. Gen. et Sp. Orchid. p.* 59.

Detected in Ceylon by Mr. M'Rae, growing upon trees in woods, and since sent from the same country by our worthy friend Mr. Gardner, the able Director of the Botanic Garden of Peradenia, to the Royal Gardens of Kew. It flourishes on lumps of turf suspended from the roof of the Orchideous House, and blossoms in July. This is a much prettier species of the genus than the *C. nutans*, figured at Tab. 4418, the flowers being of a deeper yellow, mixed with purplish-brown.

Descr. *Pseudo-bulbs* ovate, smooth, scarcely so large as nutmegs, the younger ones sheathed with brown fibrous scales: each is terminated by a solitary and rather large, oblong, fleshy, acute *leaf*, tapering into a rather long *footstalk*, which is articulated upon the bulb. *Scape*, a span long, slender, longer than the leaf, bracteated. *Raceme* (scarcely at all umbellate) of about six pedicellated *flowers*, whose ground-colour is yellow. Upper *sepal* small, broad-lanceolate, with a long, very narrow, almost setaceous, incurved point, externally brown except at the margin; lateral *sepals* very long, linear-lanceolate, gradually acuminated, streaked or dashed with red brown. *Petals* ovate, entire, acuminate, purple brown. *Column* short, with two wings, and terminating upwards in two subfalcate segments or long teeth,

slightly dentate at the margin; the base of the column is decurrent, and bears, articulated upon it, a recurved, ovate, acuminate, thick, fleshy lip. *Anther-case* small, hemispherical. *W.J.H.*

Cult. The habit and nature of this plant being in every respect analogous to the species of the same genus figured at Tab. 4418, the remarks there given in regard to its cultivation are equally applicable to this species. *J. S.*

Fig. 1. Flower. 2. Column and lip :—*magnified.*

Tab. 4423

EXACUM Zeylanicum.

Ceylon Exacum.

Nat. Ord. Gentianeæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4340.)

Exacum *Zeylanicum*; caule tetragono subsimplici, foliis sessilibus elliptico-oblongis 3-nerviis margine lævibus, calycis 5-partiti alis semicordato-ovatis, corollæ cæruleæ lobis obovatis obtusis, filamentis exsertis. *Griseb.*

Exacum Zeylanicum. *Roxb. Fl. Ind.* 1. *p.* 398. *ed. Wall.* 1. *p.* 414. *Griseb. in De Cand. Prod.* 9. *p.* 45.

Chironia trinervis. *Linn. Sp. Pl. p.* 272.

Lisianthus Zeylanicus. *Spreng. Syst. Veget.* 1. *p.* 586.

Lysimachia folio sinuato acuminato trinervio, flore cæruleo, calyce carinato alato. *Burm. Zeyl. p.* 145.

A beautiful annual, raised from Ceylon seeds by Mr. Moore of the Glasnevin Botanic Garden, Dublin, where it flowered in September, 1848. It is really a striking plant, and by no means ill-figured in Burmann above quoted; especially when we consider the period at which that plate was published (1737). The species is now, for the first time, introduced into Europe, and we trust so desirable a plant will continue to be propagated by seeds.

Descr. Annual. *Stem* erect, four-sided, glabrous, as is every part of the plant, corymbosely branched above and there only. *Leaves* opposite, sessile, (for they can scarcely be said to taper into a foot-stalk,) elliptical-oblong or lanceolate, acuminate, distinctly three-nerved, paler and with the nerves prominent beneath, the edge or margin smooth to the touch. *Corymbs* terminal, leafy. *Branches* (or in other words *peduncles* and *pedicels*) four-sided, rather slender; ultimate pedicels three together. *Calyx* deeply five-cleft, membranaceous, green, the lobes tapering into subulate points, their back, down to the base of the calyx, having a broad membranaceous wing. *Corolla* rotate, large, handsome, rich purplish-blue; the *tube* short,

slightly fringed at the mouth, where the stamens are inserted; the *limb* large, spreading, five-lobed; *lobes* oval or obovato-obtuse, pale on the underside. *Stamens* five, erect, much protruded. *Filaments* short, white; *anthers* erect, oblong, orange-coloured, two-celled, two-lobed at the base, tapering above and opening at the point by two pores. *Ovary* oval, glabrous. *Style* long, decurved, the apex curved upwards. *Stigma* transversely furrowed. *W. J. H.*

Cult. This pretty Indian annual, like its British representatives (*Chlora perfoliata*, and *Chironia Centarium*, &c.,) is not very subservient to garden cultivation. The seeds should be sown early in the spring in pots filled with sandy peat soil, and as they are very small, they require no covering of earth, but merely that the mould should be gently pressed down. The pot should be placed near the glass in a damp corner of the stove, or a pan of water should be set under them, as it is very necessary that the mould in the pot should be kept in a moist state without having occasion to sprinkle water over the surface, for if that is done the small germinating seeds are disturbed. When the young plants are sufficiently strong, they should be pricked out singly into the smallest sized pots; as they advance in growth, they require to be shifted into five-inch pots, or four or five plants may be put into a wide shallow pot or pan, which will give the plants a fuller appearance. Loose turfy soil should be used, the pot being well drained, so that water may be freely given without the risk of the mould becoming stagnant; for as the stem is soft and herbaceous, the plant is apt to drop off suddenly, if kept too long wet about the root. This species of *Exacum* is allied to *Exacum tetragonum* figured at Tab. 4340; and, as we have observed the latter to flower readily, when allowed to grow as a weed on the damp mossy surfaces of pots in the Orchidaceous house, the same method may be adopted with the present species, by sowing the seeds on suitable surfaces near the glass. Unless seeds are obtained, it is very apt to be lost. In its natural habitat it appears to be truly annual, but in cultivation this species, as also *E. tetragonum*, may sometimes, after flowering, throw out short side branches close to the ground, which with care may be preserved through the winter. *J. S.*

Fig. 1. Base of the corolla laid open, showing the fringe and the stamens.
2. Pistil:—*magnified*.

Fitch del et lit

R B & R imp

Tab. 4424

LISIANTHUS PULCHER.

Beautiful Lisianthus.

Nat. Ord. Gentianeæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4324.)

Lisianthus *pulcher*; elatus erectus caule ramisque obtuse tetragonis, foliis petiolatis elliptico-lanceolatis acuminatis, nervis lateralibus paribus duobus, panicula terminali trichotoma, floribus pendulis, calyce brevi ovato brevi-5-lobo lobis obtusis, corollæ (coccineæ) infundibuliformis tubo basi angustato, limbo parum obliquo 5-lobo lobis ovatis obtusis patentibus, staminibus styloque exsertis, antheris apiculatis.

Beautiful as are all the species of the genus *Lisianthus*, as that genus is now restricted by the learned Grisebach, the present, together with another scarlet-flowered one, *L. splendens*, Hook. (Lond. Journ. Bot. vol. iv. p. 264. tab. 8) are, perhaps, the most beautiful; and both these new species are among the discoveries of Mr. Purdie, during his botanical expedition to New Grenada. *L. pulcher* was found in the Monte del Moro in October, 1845. It has flowered in the stove at the Royal Gardens of Kew, and more perfectly in the collection of Messrs. Lucombe andPince, Exeter Nursery, from whose fine plant our drawing was made in September, 1848.

Descr. A tall shrub, according to Mr. Purdie, five to seven feet high in its native country, with opposite, obtusely four-angular *branches* and *leaves*, which are also opposite, petiolate, ovato-lanceolate, four to five inches long, acuminate, obtuse at the base, penninerved; *nerves* in two pairs from the costa, and running almost parallel with the margin, the lowest pair springing from near the base of the costa, the other pair from below the middle; these nerves and costa are prominent and downy beneath, the rest glabrous. *Panicle* terminal, trichotomous, scarcely leafy, but bracteated with small scales at the setting on of the pedicels, and there is also a small pair of bracts near the middle of the pedicels. *Flowers* gracefully drooping. *Calyx* small, ovate, shortly 5-lobed, *lobes* small obtuse, erect. *Corolla*

one inch and a half and more long, rich scarlet, funnel-shaped; the *tube* a little curved upwards, narrow at the base, inflated above the middle; the *limb* rather oblique, of five spreading, ovate, obtuse lobes, the mouth streaked with dark yellow. *Stamens* and *style* exserted. *Anthers* short, apiculate. *Ovary* seated on a large fleshy disk. *Stigma* bifid. *W. J. H.*

Cult. Ever since Mr. Purdie sent us the seeds and description of this beautiful plant, we have been very desirous to see it brought into cultivation; and in order to give it the chance of different modes of treatment, seeds were distributed; but the raising of them has not been attended with the success we could have wished, only a few plants having been obtained. In its young state it appears to be rather delicate; but from our little experience we have yet to learn what kind of treatment it should receive. A knowledge of the nature of its primitive habitat may in some degree assist us: we learn from Mr. Purdie that it is a suffruticose shrub, forming a bush five to seven feet high and two to three feet in diameter, growing at an elevation of between 7000 to 8000 feet on shelly limestone rocks, which are covered with a thin stratum of peaty soil of a dry nature. The climate he states to be moist and temperate, the heat never being excessive, sometimes the thermometer falling to 40°, when ice is formed, the sensation of cold is very great, and the vapour in suspension in the atmosphere gives to the light of the sun a peculiar and rather unpleasant glare. Such being the circumstances under which it grows, we therefore infer that it should be kept in a close greenhouse, potting it in loose peat soil, well drained, and it may possibly derive benefit by mixing with the mould thin pieces of limestone, which may also be employed for drainage. The beauty of this plant, as described by Mr. Purdie, renders any experiment for its cultivation worthy of trial, but it must be borne in mind that one drawback will always attend our experiments:—we cannot place it in an atmosphere of the tenuity and lightness which it enjoys at an elevation of 7000 to 8000 feet, and in our opinion the difference of weight of the atmosphere at different heights is the cause of the ill success attending the cultivation of many mountain plants. *J. S.*

Fig. 1. Pistil:—*magnified.*

4425.

Fitch, del. et lith.

R.B & R imp.

Tab. 4425.

MILTONIA SPECTABILIS; var. PURPUREO-VIOLACEA.

Showy Miltonia; purple-violet variety.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (Vide supra, Tab. 4204.)

Miltonia *spectabilis*; pseudo-bulbis ovalibus ancipitibus lævibus, foliis ligulatis patentissimis, pedunculis unifloris squamis magnis fuscis striatis imbricatis carinatis dense imbricatis, sepalis ovalibus planis, petalis conformibus revolutis, labello maximo cuneato-rotundato basi trilamellato, columnæ alis angustis acutissimis. *Lindl.*

Miltonia spectabilis. *Lindl. Bot. Reg.* t. 1992. *Hook. Bot. Mag.* t. 4204.

β. floribus unicoloribus purpureo-violaceis. (Tab. nostr. 4425.)

For the full description of this species, we must refer our readers to the plate above quoted; for, striking as this plant is from the intense purple-violet colour of the entire flower, yet in shape and every essential particular, it is identical with *Miltonia spectabilis.* Those parts which are palest in the original *M. spectabilis* (the petals and sepals for example, there, almost pure white) are here of the deepest purple; and the lip, which in our Tab. 4204, is the most coloured, is here the least so, being of a paler purple than the sepals and petals.

Dr. Lindley having since the publication of his original species added others, some at the expence of the genus *Cyrtochilum*, it becomes necessary to give a specific character to this, which we are glad to do from Dr. Lindley's 31st volume of the Botanical Register. *W. J. H.*

Cult. The several species of *Miltonia* being natives of the warm parts of Brazil, this plant requires to be kept in the warmest division of the orchideous house. It is sometimes grown on a block of suspended wood, but we prefer shallow pots, well drained, and fixing it in rough peat soil, mixed with chopped sphagnum, moss, and broken potsherds. During summer it must be shaded from the sun's mid-day rays. It is observed that the species of this genus have generally a yellow unhealthy appearance, which to a certain degree seems natural to them. *J. S.*

February 1st, 1849.

P. J. Redouté et lith.

R. B. & R. imp.

Tab. 4426.

MACLEANIA punctata.

Dotted-leaved Macleania.

Nat. Ord. Vaccinieæ.—Decandria Monogynia.

Gen. Char. Calyx truncatus obsolete 5-dentatus inferne ovario adherens. *Corolla* cylindracea, limbo 5-fido. *Stamina* 10, basi corollæ inserta, filamentis per totam longitudinem in urceolum connatis. *Antheræ* basi affixæ dorso muticæ, apice in tubum simplicem attenuatæ et rimula singula introrsum dehiscentes. *Ovarium* 5-loculare, multiovulatum. *Fructus*; Bacca?—Frutex *habitu* Thibaudiæ *vel* Ceratostemmatis. Flores *numerosi*, *axillares*, *secundi*. Folia *subsecunda*, *nunc punctata*. Rami *cortice deciduo*. *De Cand.*

Macleania punctata; *foliis* sessilibus cordatis obtusis punctatis coriaceis penninerviis, pedunculis glomeratis axillaribus terminalibus, corollis conico-urceolatis 5-gonis, ore dilatato, lobis patentibus.

This is very distinct from the three species of this beautiful *Vacciniaceous* genus already described, from my original *M. floribunda*, (Hook. Ic. Pl. 2. tab. 109,) which has very acute or acuminated leaves and a differently shaped corolla, from *M. angulata*, (Hook. Bot. Mag. t. 3779,) which has petiolated leaves &c., calyx narrower than the corolla, with its mouth contracted, and from *M. longiflora*, (Lindl. Bot. Reg. 1844, Tab. 25,) which has oval-oblong leaves, and a much longer, whole-coloured corolla, also contracted at the mouth; and it differs from all in its distinctly dotted foliage. It is sent from the Andes of El Equador by Mr. William Lobb, and it flowered in the greenhouse of Messrs. Veitch and Son of Exeter in Nov. 1848. It exists in Professor Jameson's collection from the same country.

Descr. A low *shrub*, with slightly angular *branches*. *Leaves* alternate, but inclined to be secund, sessile or with a most indistinct petiole, cordate, the upper ones approaching to oval, obtuse, entire, coriaceous, convex, the margin secund, glossy, dotted, delicately penninerved. *Flowers* pedunculate, crowded in the axils of the superior leaves, and in a terminal cluster, secund. *Peduncles* clavate, red. *Calyx* articulated upon the peduncle, turbinate, shortly 5- toothed, with 5 wing-like angles, fleshy, deep

red. *Corolla* full an inch long, between cylindrical and urceolate, swollen in the lower half, contracted below the spreading mouth, 6-angled, rose-red, except the upper part which is white tinged with yellow, *lobes* 5, acute, spreading. *Stamens* and style included. *W. J. H.*

Cult. When required to give instructions for the cultivation of any particular plant, it is to be presumed that the rules laid down are the results of experience; but if it be recollected that most of the plants figured in this work are only of recent introduction to this country, and that it is the wish of the first possessor to get his new plants into flower as early as possible, a result often obtained under circumstances not natural to the true habit of the plant,our directions, in most cases, as to its cultivation, must be somewhat vague and uncertain. More time and experience are required, and guided by our knowledge of the natural climate of the plant, we become acquainted with its habit, and may then be able to state what is the best mode of treatment it should receive. One or two species of *Macleania* have been known to us for several years; they have thick fleshy roots, and with their stiff habit of growth do not appear to be well adapted for cultivation in a pot; but we are of opinion that if planted out in a warm greenhouse, they would form handsome plants. The soil should consist of loam and peat well mixed, but must not be deep, for it has been observed that the fibres keep near the surface. It should be well drained, so as to permit abundance of water to be given during their season of growth, without the risk of the soil becoming saturated. This may be propagated freely by cuttings, placed under a bell-glass, with a little bottom heat. *J. S.*

Fig. 1. Two of the anthers with a portion of staminal tube. 2. Calyx, pistil and stamens:—*magnified.*

4427.

Fitch. del et lith.

R.B. & R. imp.

Tab. 4427.

AERIDES crispum.

Sir Richard Brooke's Air-Plant.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4139.)

Aerides *crispum*; foliis planis apice obtusis obliquis bilobis racemis multifloris nutantibus duplo brevioribus, sepalis petalisque subæqualibus obtusis, labelli maximi lacinia intermedia multo majore ovata retusa serrulata basi bidentata lateralibus erectis acutis nanis, calcare cornuto incurvo. *Lindl.*

Aerides *crispum*. *Lindl. in Wall. Cat. n.* 7319. *Gen. et Sp. Orchid. p.* 239. *Bot. Reg.* 1842. t. 55.

Aerides Brookei. *Batem. in Bot. Reg.* 1841.

A native of Courtallam, East Indies, whence I possess native specimens from its discoverer, Dr. Wallich. Living plants were received at the Royal Gardens of Kew in 1845, but the plant had previously (in 1842) flowered in the collection of Sir Richard Brooke, Bart., of Norton Priory. It is one of the most lovely of the very favourite genus *Aerides*, and still I believe one of the most rare. Our plant differs slightly from that represented by Dr. Lindley in the more diffused purple tinge on the lip, and its more deeply cut edge, rather fimbriated than serrated. It flowered with us in July.

Descr. *Stem* flexuose, sending out large fleshy *roots* from below, leafy above. *Leaves* articulated upon the sheath, ligulate, retuse or bifid and oblique at the apex, distichous, a span long, coriaceous, keeled at the back below. *Racemes* drooping on a long *peduncle* springing from the side of the stem below the leaves, many-flowered, large, very handsome. *Sepals* larger than the petals, otherwise like them in shape and colour, oval or obovate, white, tinged with rose. *Lip* very large, 3-lobed, lateral lobes small, erect, ovato-obtuse; middle one broadly ovate, fringed at the edge, 2-toothed at the base, there white, the rest deep rose-purple. *Spur* horn-like, slightly curved. *Column* short, white. *Pollen*-masses two, on a long *caudicle*. *W. J. H.*

Cult. This plant being a native of the hot and moist climate

of Southern India, requires to be kept in the warmest division of the orchideous house. Its natural habitat is on trees, to which it firmly attaches itself by its long naked roots. To imitate this, it is the general practice to fix the plant on blocks of wood which should be 3 to 4 feet long, set upright to allow space for the roots to descend; but as wood of any kind soon decays in the orchideous house and then becomes a nidus for fungi and insects, it is desirable that some other mode should be adopted. In some portions of the house the several species of *Aerides* may be freely suspended without any support; if near any upright surface (such as the walls of the house) it will be observed that the free aërial roots will in time direct their points of growth towards the wall, &c., and on reaching it will become attached, evidently showing that some kind of a basis of attachment is natural to these plants. Many years ago we remember seeing *Aerides odoratum* in fine flower, its roots being attached to a moist brick wall, and as they adhere in like manner to the side of garden pots, we have procured several tall cylindrical pots (something like chimney pots) round the margin of which we temporarily fix the plants; but they soon fasten themselves by their roots gradually creeping over the surfaces of the pot, both within and without, and by occasionally syringing the outside and a little water inside, the porous earthenware is kept sufficiently moist to be congenial to the roots. During the dry season this plant experiences very great heat, and therefore under our artificial cultivation it is advisable to lessen the supply of moisture after it has done flowering in summer. We have observed that the species of *Aerides* will bear with impunity a pretty free exposure to the sun; though much depends upon the position of the house and the nature of the roof. *J. S.*

Fig. 1. Column and lip:—*magnified.*

1.

2.

R.B. & R. imp.

Tab. 4428.

LOASA PICTA.

Painted-flowered Loasa.

Nat. Ord. Loaseæ.—Polyadelphia Polyandria.

Gen. Char. Calycis tubus ovario adhærens, *limbus* persistens, 5-partitus, æqualis. *Petala* 5, lobis cal. alterna, breviter unguiculata, concava. *Squamæ* 5, petaloideæ, petalis alternæ, bi- aut trilobæ, in conum conniventes et basi intus filamentis 2 sterilibus instructæ. *Stamina* numerosa, exteriora 10 sterilia, cætera in phalangis 15-17-andras petalis oppositas disposita; *antheris* erectis bilocularibus. *Stylus* apice trifidus. *Capsula* turbinato-oblonga, 1-locularis, apice 3-valvis calyce coronata, valvis margine placentiferis, placentis ideo cum vicina continuis. *Semina* ovalia creberrima reticulata. *D.C.*

Loasa *picta*; erecta debilis dichotoma parce pubescenti-pilosa, caule ramis petiolis pedunculisque pungenti-setosis, foliis rhombeo-ovatis lanceolatisve acuminatis acutis lobatis serratis, inferioribus petiolatis superioribus (bracteisve) sessilibus, racemis terminalibus foliosis, pedicellis elongatis, ovario hispidissimo, petalis sterilibus ovatis acuminatis basi cucullatis apice bifidis, lobis calycinis petalisque reflexis.

An extremely pretty species of *Loasa*, native of Chacapoyas in the Andes, and which, from the varied colour of the petals and nectaries (or petaloid scales), we have named *picta*. It was detected by Mr. William Lobb, and seeds were raised by Messrs. Veitch and Sons at their Nursery, Exeter, from whose plants the accompanying figure was taken in December, 1848; during which season, in a cool frame, the plants are covered with blossom from top to bottom. There is every reason to believe that it will prove a hardy annual, well suited for bedding out in the summer, when its graceful and lively flowers, yellow and white, with a red eye, cannot fail to prove attractive. We possess specimens in the Herbarium of the same species, gathered precisely in the same locality by the late Mr. Mathews. Its nearest affinity is with *L. xanthiifolia*, Juss., but that has more cordate leaves, very hairy on both sides, the flowers smaller, wholly yellow, and the nectaries, as far as can be judged from the figure and from the dried specimens, are of a different form.

February 1st, 1849.

Descr. Annual. *Stems* about a foot high, dichotomously branched, weak, but nearly erect, clothed as are the leaves, but chiefly on the nerves, with thin inconspicuous pubescence, mixed with many pungent setæ. *Leaves* alternate, pale green, membranaceous, the lower ones two to three inches long, petiolate (petioles setose), rhombeo-ovate, acuminate, acutely lobed and serrated; upper or *floral leaves* sessile, lanceolate, coarsely serrated, the uppermost (decidedly *bracteas*) almost linear, subulate, entire. *Racemes* leafy. *Pedicels* elongated, drooping, setose. *Flowers* large (for the size of the plant), drooping. *Ovary* cylindrical, very hispid. *Calyx-segments* ovate, acuminate, reflexed. *Petals* reflexed, obovate, acute, cucullate, hispid at the back, their colour bright yellow in the lower half, the rest white. *Nectaries* or petaloid scales ovato-acuminate, bifid at the point, the base cucullate, white, beautifully mottled with red. *W. J. H.*

Cult. Little requires to be said respecting the cultivation of this plant, as it is, like the rest of the genus, a tender annual. It should be sown in April in a frame or pit, and by the end of May it will be safe to turn it out in the flower-borders. We know too little of it yet, to enable us to speak of its merits; but it will probably make a pretty bed in the flower garden. *J. S.*

Fig. 1 and 2. Outer and inner view of a petaloid scale;—*magnified*.

Fitch, del. et lith.

F. B. & R.

Tab. 4429.

DENDROBIUM Devonianum.

The Duke of Devonshire's Dendrobium.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4352.)

Dendrobium *Devonianum*; caulibus elongato-cylindraceis articulatis striatis proliferis junioribus foliiferis, foliis lineari-lanceolatis distichis submembranaceis acuminatis, floribus (5–6) aggregatis, sepalis lanceolatis integerrimis, petalis ovatis acutis ciliatis apice purpureo-maculatis, labello cucullato amplo latissime cordato pulcherrime plumoso-fimbriato intus maculis 2 aurantiacis apice emarginato purpureo, calcare brevissimo.

Dendrobium Devonianum. "*Paxton, Mag. Bot. v.* 7. *p.* 169."

Assuredly one of the most delicate and most lovely of all Orchideous plants, and worthy to bear the name of that distinguished nobleman, the Duke of Devonshire, who has done so much to encourage Horticulture and Botany. It is a native of the Khoseea hills, East Indies, and bears this name in Mr. Paxton's Magazine of Botany, vol. vii. I do not find it anywhere fully described. Our plant, from which the accompanying figure was made, is from the collection of the late Mr. Clowes. It flowered with us in September, 1847. The charm of this plant is confined wholly to its flowers: the stems and foliage possess no attractions. Except in the colour and markings and pubescence, the flowers have a considerable resemblance to those of *D. fimbriatum*. The leaves are widely different.

Descr. *Stems* elongated, nearly cylindrical, jointed, pale whitish-brown, and, as it were, proliferous; the young shoots leafy; *leaves* few, distichous, wide apart, linear-lanceolate, submembranaceous, acuminate. *Flowers* forming a rather dense raceme at the end of leafless shoots, large, handsome; the ground colour is white. *Sepals* broad-lanceolate, rather obtuse, entire, faintly tinged with purple, the two anterior ones uniting at the base and decurrent into a short obtuse or emarginate spur. *Petals* larger than the sepals, very spreading, ovate, acute,

beautifully ciliated, the apex with a purple spot. *Lip* remarkably large, cucullate, very broadly cordate, deeply and most elegantly fringed, bearing two large orange spots on the pure white ground, and tipped with purple at the emarginate apex. *Column* concealed within the base of the labellum. *W. J. H.*

Cult. This belongs to the caulescent section of *Dendrobium*, and, being of a weak and slender habit, its appearance does not offer much inducement to the cultivator; but what it wants in look as a plant, is amply compensated by its lovely flowers, which render it worthy of a place in every Orchideous collection. It requires to be kept in the warm Orchideous house; and as the stems are weak and naturally pendulous, it should be suspended from the roof of the house, either attached to a block of mossy wood, or in an open wire basket containing loose turfy peat mixed with chopped sphagnum moss; or the block of wood or wire basket may be dispensed with, by fixing the plant on a sod of solid sphagnum, which remains firm and sound a long time, and keeps entirely free from insects and fungi. During its season of growth it must receive the usual stimulus of heat and moisture, and shading from the mid-day sun in summer. After the stems have attained their growth, they will begin to lose their leaves: water must then be gradually withheld, and the plant may be more freely exposed to the sun. The flowers are produced on the leafless stems during the dry season, a character common to many of the species in the section of *Dendrobium* to which the present one belongs. It increases by lateral shoots, which emit roots and continue to grow while attached to the old stems. *J. S.*

Note on Exacum Zeylanicum.

In our last Number, under *Exacum Zeylanicum*, Tab. 4423, it should have been added, that the seed was sent to the Glasnevin Garden by Glanville Taylor, Esq. That gentleman, soon after his arrival in Ceylon, was struck with the beauty of the flower in the jungle, and having marked the place, returned to it when he judged the plant to be in seed.

R.B.& R.imp.

Tab. 4430.

GLOXINIA FIMBRIATA.

Fimbriated Gloxinia.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4213.)

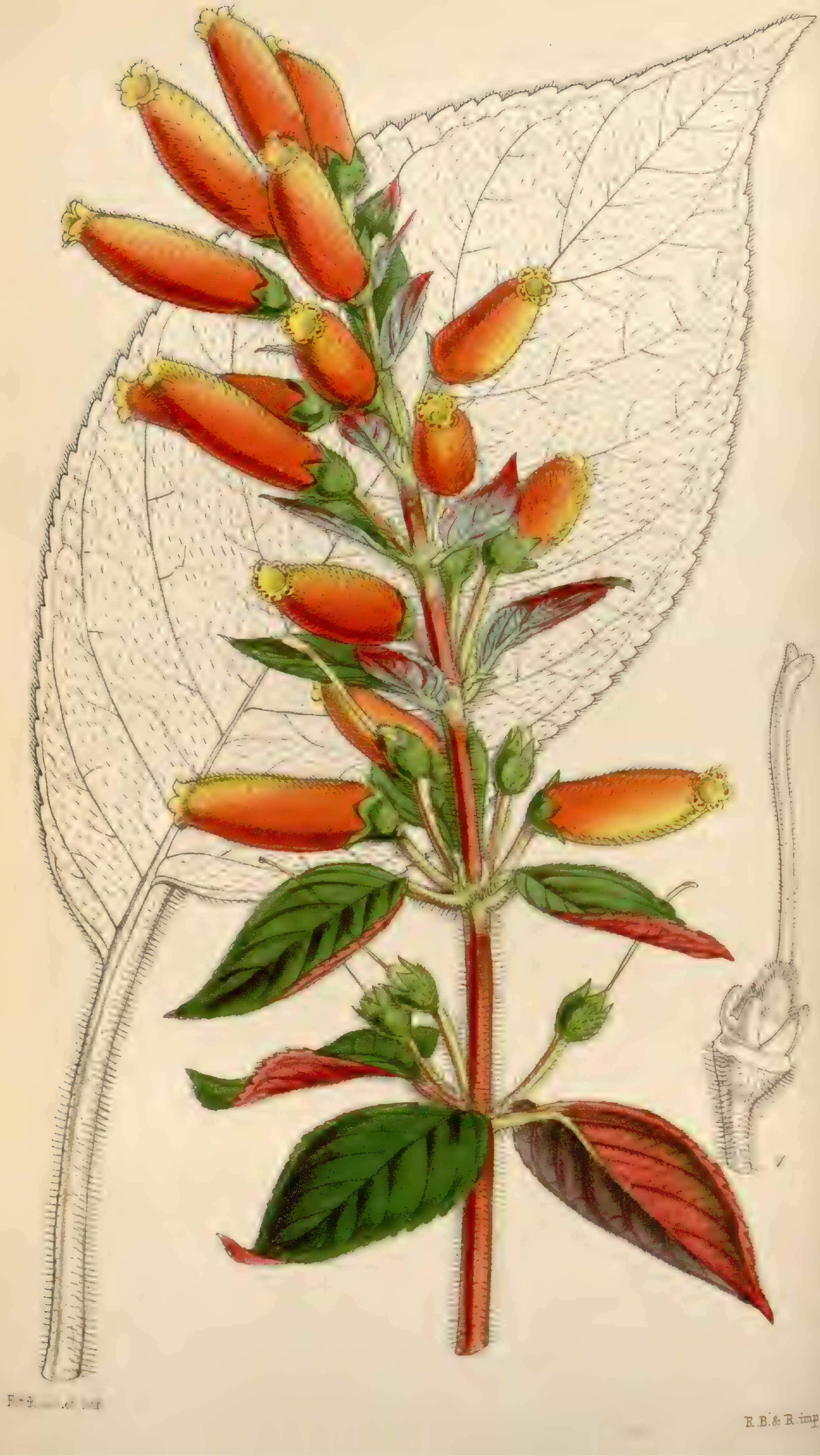
Gloxinia *fimbriata*; erecta simplex subtetragona, foliis brevi-petiolatis ovatis acutis serratis glabris, pedunculis axillaribus solitariis unifloris, calycis segmentis ovatis patentibus foliaceis, corollæ tubo elongato infundibuliformi-cylindraceo, ore obliquo, limbo amplo profunde 5-lobo lobis subæqualibus rotundatis margine undulatis tenuissime fimbriatis intus pilosulis.

Gloxinia fimbriata. *Hortul. Paris.*

A very pretty and delicate looking stove-plant, of which we regret to say that all we know of it is that we received it at the Kew Gardens from M. Ketelew of Paris, under the name here given, and that it flowered with us in September, 1848, and continued some time in great beauty. It appears extremely different from any *Gloxinia* with which we are acquainted, and is a valuable addition to the hot-house department.

Descr. *Roots* elongated and scaly, as in the genus. *Stems* erect, herbaceous, simple, a foot or a foot and a half high, rather obscurely tetragonal, green, tinged with red: the angles often sending out short white filaments as if rooting. *Leaves* opposite, shortly petioled, ovate, acute, serrated, penninerved, glabrous, full green, paler, and with prominent nerves beneath. *Peduncles* axillary, solitary, single-flowered, longer than the petioles, much shorter than the leaves. *Calyx-tube* turbinate, angled: *segments* spreading, ovate, large, leafy, three-nerved, wavy. *Corolla* declined, large, pale purplish-white. *Tube* between infundibuliform and cylindrical, deep yellow inside and beautifully sprinkled with red dots: the *limb* quite white, spreading, and large; the *lobes* rounded, nearly equal, lapping over each other, pilose on the inner or upper surface, the margin waved and most delicately fimbriated. *Stamens* and *style* quite included within the tube. *W. J. H.*

Cult. This, like the rest of the genus, is an herbaceous plant, the stem dying to the ground after having flowered and perfected its singular roots, or rather underground stems. These are composed of numerous closely-packed scales, surrounding an elongated axis, each scale when separated being capable of producing a distinct plant. In a natural state the roots lie dormant during the dry season, and start into vigorous growth on the return of the rains. To imitate this, the roots (having been kept dry all the winter) require in the spring to be taken out of the last year's mould and repotted in soil composed of light loam and a portion of leaf-mould or sandy peat, so as to form a light open compost, not retentive of water. The roots may be either planted whole, or divided according to the number of plants required, planting them in wide shallow pots or pans; and in order to start them, the pans should be placed in bottom-heat in a warm pit or frame. Little water must be given at first, but as they advance in growth they will require it pretty freely. Care must be taken not to allow them to remain too long in the bottom-heat, as they are apt to grow weak. As soon as they have attained sufficient strength, they should be removed to a more airy part of the stove, shading them from the sun in the middle part of the day. If many roots have been put in a pan they will require to be thinned, and those that are to remain should be carefully supported and trained to the best advantage for displaying the flower. When the flower-stems begin to decay, heat and moisture must be gradually withdrawn, but even after the stems are quite withered, it is advisable to keep the mould moderately moist for several weeks longer; as, if it is too quickly dried up, the roots are apt to shrivel and decay during their long season of repose. They may be kept under the shelves in the stove, or in a shed, or other dry moderately warm place. *J. S.*



F. Fitch del. et lith.

R.B. & R. imp.

Tab. 4431.

GESNERIA PICTA.

Painted Gesneria.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. (Vide supra, Tab. 4217.)

Gesneria *picta*; tota velutino-hirsutissima, caule erecto elongato, foliis ovatis acuminatis crenato-serratis oppositis ternisque discoloribus inferioribus longe petiolatis lamina basi hinc decurrente, racemis elongatis foliosis, pedicellis aggregato-verticillatis foliis floralibus brevioribus unifloris, calycis tubo rotundato-hemisphærico dentibus 5 parvis erectis, corolla cylindracea subtus parum ventricosa ore contracto limbo parvo 5-lobo æquali maculato, staminibus styloque inclusis, glandulis hypogynis 5 quorum 3 basi conjunctis.

β. minus hirsuta, foliis floralibus majoribus, corollis minoribus, foliis subtus pallidioribus.

Two Gesnerias have been brought to my notice lately from Columbia; the one here represented, sent home to the Royal Gardens by Mr. Seemann, the other introduced by Messrs. Veitch and Son, through their collector, Mr. William Lobb. I cannot find that either of them will accord with any described species. I have little hesitation then in considering them new; but although there are some discrepancies, as above indicated, I think the two may, without much violence to nature, be considered the same species. Both are exceedingly beautiful, not only in the rich colour of the copious flowers, but in that of the underside of the leaves, and in the fine velvety texture of the upperside of the foliage. The blossoming continues through the summer and autumn, and till late in November. They require the heat of the stove.

Descr. *Stem* herbaceous, two to three and more feet in height, densely clothed with purple-red down, mingled with long fine spreading hairs. *Leaves* opposite or ternate, ovate, very hairy, acuminate, crenately serrate, the lower ones on long petioles which are very hirsute, and which have one side of the blade decurrent on the petiole. *Floral leaves* on short petioles

and small, all rich red-purple beneath. *Raceme* terminal, elongated, leafy. *Pedicels* axillary, in whorls, single-flowered, shorter than the floral leaves, very hairy. *Calyx* hemispherical, with five small erect teeth. *Corolla* inclined, but not drooping, scarlet, yellow beneath and at the mouth, very hairy and velvety, subcylindrical, rather ventricose below: the mouth small: the *limb* of five small, rounded, spotted *lobes*, and hairy, almost hispid. *Stamens* and *style* included. *Ovary* and *style* hairy. *Glands* five, large: three combined at the base. *W. J. H.*

Cult. This plant belongs to that section of *Gesneria* characterized by roots similar to those of *Gloxinia*, as described under Tab. 4430; and therefore the treatment recommended for the cultivation of *Gloxinia fimbriata* is applicable to this. It is of a robust free-growing habit, and continues a long time in flower; a succession of flowering plants may be kept up till late in the season by starting a few roots at intervals of about a month, beginning with the first early in February, and selecting the early-flowered roots of the previous year for the first potting. *J. S.*

Fig. 1. Pistil and hypogynous glands:—*magnified*.

Tab. 4432.

VANDA TRICOLOR.

Three-coloured Vanda.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4304.)

Vanda *tricolor*; foliis distichis canaliculatis racemo pauci-(multi-)floro longioribus, sepalis coriaceis unguiculatis obovatis obtusis, labello æquilongo trilobo per axin 3-lineato, calcare brevi obtuso, laciniis lateralibus rotundatis intermedio convexo cuneato emarginato latioribus. *Lindl.*

Vanda tricolor. *Lindl. in Bot. Reg.* 1847. *p.* 59, *ad calcem.*

One of the many very fine plants recently introduced by Messrs. Veitch and Son from Java, through Mr. Thomas Lobb. Dr. Lindley compares it with *V. Hindsii*, a New Guinea plant, with which we are unacquainted, and he distinguishes it from *Vanda insignis* of Dr. Blume (Rumphia, t. 192. f. 3), most justly. It is besides a far handsomer species, and indeed one of the most beautiful of this eminently beautiful genus. Our specimen was kindly communicated by Messrs. Veitch in December, 1848.

Descr. The *stem* is of moderate length, sending out large fleshy *roots* from the base, by which it is supported on trees, clothed with distichous linear-lorate, canaliculate, bright green *leaves*, a foot and more long. The *raceme* is drooping, of many large, handsome *flowers*, upon long clavate *ovaries*, striated and resembling thickened flower-stalks. The *flowers* are among the largest of the genus. *Sepals* obovate, attenuated at the base, spreading, waved, rich full yellow, with numerous spots and streaks of a dark blood colour: *petals* similar in general shape and colour, but rather narrower. *Lip* as long as, or rather longer than, the perianth, thick and fleshy, oblong-cordiform, or it may almost be called lyrate, being three-lobed, the two lateral lobes rounded, the middle oblong, a little dilated at the apex, and there imperfectly two-lobed: the colour of the lip is generally purple, with elevated lines and streaks, the base and

the margin of the lateral lobes colourless. *Column* short, thick, white. *W. J. H.*

Cult. This fine tropical epiphyte requires to be grown in the warm Orchideous house, fixed to a block of wood or some such surface, as mentioned at t. 4427, on which its aërial roots may attach themselves. During its season of growth the atmosphere of the house must be kept warm and moist, and gradually lessened when the plant indicates a cessation of growth, which may be known by the points of the roots ceasing to elongate. In our Orchideous houses it becomes difficult to regulate the temperature and moisture so as to give the numerous species, of various habits, which we have under cultivation, their proper season of growth and repose, some having by nature a tendency to grow at one particular season, and some at another. It is the understood rule to consider our summer months as analogous to the "rainy" and growing season of the tropics, and this, by the aid of the artificial means at our command, we can readily imitate; but the "dry" season of the tropics presents a great difficulty, for as it coincides with our winter months, when the atmosphere is charged with moisture accompanied with a low temperature, but which in the tropics is characterized more by a want of *rain* than any diminution of heat, and as to maintain a *dry* tropical climate in our hot-houses in winter would require a greater quantity of artificial heat than would be conducive to the health of the plants, it is the practice to lower the temperature and reduce the amount of moisture to the minimum degree necessary for counteracting the bad effects of the necessary artificial heat. But even under such treatment, we have observed that the several species of *Vanda*, *Aërides*, *Saccolabium*, &c., are always inclined to grow during the winter and spring months; we have also observed that in summer, immediately after flowering, they cease to grow, and will then bear a considerable degree of exposure to dry heat without being injured (the heat and dryness at this season being natural). In the autumn months, when the sun begins to lose power, the atmosphere of the house will naturally become moist, which again stimulates the plant into growth. From these observations we consider that the period of rest for these plants, in our climate, under artificial cultivation, is the latter part of our summer, when they have done flowering; and in order to give them their natural requirements in that respect, it is necessary to have separate compartments of the Orchideous house. *J. S.*

4433.

BEJARIA COARCTATA.

Close-flowered Bejaria.

Nat. Ord. ERICACEÆ.—POLYANDRIA MONOGYNIA.

Gen. Char. Calyx profunde et acute 7-fidus aut 7-dentatus. *Petala* 7 patula oblonga. *Stamina* petalorum duplo, a petalis libera, filamentis subulatis basi hirsutis, *anth.* muticis oscillatoriis apice biporosis. *Ovarium* subrotundum 7-sulcatum. *Stylus* elongatus. *Stigma* depresso-capitatum 7-sulcatum. *Capsula* depresso-globosa calyce persistente cincta stylo terminata 7-locul. 7-valvis, loculis polyspermis.—Frutices *Americani.* Folia *sparsa sæpius conferta integerrima coriacea.* Flores *racemosi aut corymbosi, bracteati, sæpissime purpurei. DC.*

BEJARIA *coarctata*; ramis junioribus pedicellis calycibus petiolis costaque subtus fuscescenti-lanosis, foliis elliptico-oblongis acutiusculis planis subtus glaucis, racemis densis, pedicellis florem styli stamina æquantibus.

At length we have the pleasure of exhibiting what has been so long a desideratum in European Horticulture, a species of *Bejaria*, which has, for the first time, blossomed in this country. With the exception of the North American *B. racemosa*, all the other species are natives of South America; and the genus seems to hold the same place in the Andes of Peru, Columbia, and Mexico, that its affinity, *Rhododendron*, does in the Himalaya of the Old World, and to be scarcely less ornamental. The species now represented is from the collection of Messrs. Lucombe, Pince, and Co., in whose Exeter Nursery it flowered in a cool green-house in Jannary, 1849, with no more care than is devoted to Indian Azaleas. Indeed, seeing that it is a native of very cold situations in Peru ("in regni Peruviani frigidissimis prope urbem Cascamarcan"), according to Humboldt, at an elevation of from 9,000 to 10,000 feet, it seems more than probable it will bear the open border with us. A plant one foot high is *covered* with blossoms. Other species we know are in cultivation, though they have not yet blossomed.

The genus was named by Mutis in compliment to one *Bejar*, a Spanish Botanist, and erroneously written *Befaria* by Linnæus.

DESCR. A low *shrub* with more graceful ramification than most of the species of the genus, flowering copiously when less than a

foot high, leafy. *Leaves* evergreen, alternate, patent, elliptical-oblong, subacute, entire, of a compact and brittle texture, plane, obscurely penninerved, glaucous beneath. *Petioles* very short, and, as well as the costa beneath, woolly. *Racemes* terminal on the branches, short, many-flowered, compact. *Pedicels* with small, deciduous *bracts*, and about equal in length to the flower, woolly. *Calyx* woolly, hemispherical, seven-lobed. *Petals* seven, spreading, oblong-lanceolate or subspathulate, pale rose colour, with darker streaks. *Stamens* seven, erect, approximate, as long as the petals. *Filaments* subulate, dilated and downy at the base. *Anther* obovato-oblong, two-celled, opening by a terminal pore in each cell. *Ovary* free, subrotund, seven-lobed, seven-celled. *Style* as long as the stamens. *Stigma* seven-lobed. *W. J. H.*

Cult. As very few examples of this beautiful plant are in this country, we know too little of its nature to speak with any degree of certainty as to the best method of cultivation. We learn from Mr. Pince that with him it has thriven and flowered well, placed close to the glass in a cool airy green-house, along with Chinese Azaleas, potted in a mixture of sandy peat, soil, and a small portion of half-decayed leaf-mould. It is increased by cuttings, and, as Mr. Pince's plant is expected to ripen seeds, we may expect ere long to see it in general cultivation. On account of its exceedingly neat habit and flowering in a dwarf state, it cannot fail to become a favourite with cultivators. Being a native of the elevated regions of tropical America, in a climate where the cold is (to our feelings) severe, it is expected that it will prove tolerably hardy in our climate, and Mr. Pince intends planting it in the open ground. It may possibly endure the mild winters of Devonshire, but we have our doubts on that point; for although it may sustain in its native elevated region a certain number of degrees of cold below the freezing point, yet we must bear in mind that, on account of elevation, the air is lighter and water freezes at a higher temperature than it does at our level above the sea. Any specific number of degrees of frost at a high elevation are not, therefore, equivalent in intensity to the same number of degrees with us. This circumstance, and our humid atmosphere in winter, are much against our success in the cultivation of plants from elevated regions. *J. S.*

Fig. 1. Stamen. 2. Pistil :—*magnified.*

Mintern Bros. imp.

Reeve, Benham & Reeve imp.

Tab. 4434.

MAXILLARIA LEPTOSEPALA.

Narrow-sepaled Maxillaria.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4228.)

Maxillaria *leptosepala*; pseudo-bulbis ovato-rotundatis ancipiti-compressis unifoliatis, folio lato-lanceolato coriaceo obtuso inferne angustato, scapis radicalibus folio triplo brevioribus vaginatis, sepalis petalisque (brevioribus) patentissimis anguste lanceolatis acuminatis margine revolutis, labello obovato-oblongo 3-lobo, lobis lateralibus obtusis intermedio maximo revoluto obtuso marginibus dentato-fimbriatis disco pulvinato hirsuto.

From New Grenada, whence it was sent by Mr. Purdie in 1846. It bore its large and really handsome flowers in the stove of the Royal Gardens in July, 1849.

Descr. *Pseudo-bulbs* clustered, about two inches long, ovato-rotundate, compressed, with acute edges, partially surrounded by membranous scales, and bearing, articulated upon the summit, a solitary *leaf*, nearly a foot long, oblong-lanceolate, obtuse, coriaceous, nerveless, tapering at the base into a kind of foot-stalk. *Scapes* two or three from the base of the bulb, much shorter than the leaf, clothed, almost completely, with pale yellowish membranaceous sheathing *bracteas*, the upper one the largest and sheathing the ovary. *Flowers* solitary, large. *Sepals* very spreading, two inches and a half long, yellowish-white, narrow-lanceolate, acuminate, the margins revolute; *petals* resembling these both in form and colour, but rather smaller. *Lip* moderately sized, oblong-obovate, three-lobed, with a cushion-like swelling at the base of the disk: *side lobes* involute, white, beautifully veined with purple: *middle lobe* long, obtuse, waved, toothed and fringed and crisped at the margin, white; the *disk* yellow, villous. *Column* rather short. *Anther-case* large, crested. *W. J. H.*

Cult. This epiphyte, being a native of the temperate region of New Grenada, should be kept in the cool division of the

Orchideous house. With us it is attached to a block of wood suspended from the roof of the house, and shaded from the mid-day sun in summer. *J. S.*

Fig. 1. Ovary and column. 2. Pollen-masses. 3. Lip :—*magnified.*

Tab. 4435.

CURCUMA CORDATA

Heart-leaved Curcuma.

Nat. Ord. Scitamineæ.—Monandria Monogynia.

Gen. Char. Cal. tubulosus, tridentatus. *Corollæ tubus* sursum dilatatus, *limbi laciniæ exteriores* interioribus lateralibus conformes; *labellum* majus, patens. *Filamentum* petaloideo-dilatatum, carinatum, apice trilobum, lobo intermedio anthera bicalcarata terminato. *Ovarium* inferum triloculare. *Ovula* loculorum angulo centrali plurima, horizontalia, anatropa. *Stylus* filiformis; *stigma* capitatum. *Capsula* trilocularis, loculicido-trivalvis. *Semina* plurima, arillata.—Herbæ in India orientali tropica *indigenæ*, *acaules*; radicibus *palmato-tuberosis perennantes*; foliis *herbaceis*, petiolis *vaginantibus*, *bifariis*; scapo *simplici laterali v. centrali*, spica *simplici*, *erecta*, *comosa*, *inferne* bracteis *saccatis subimbricata*, floribus *flavescentibus intra quamvis bracteam ternis quinisve approximatis*, *bracteolatis*. *Endl.*

Curcuma *cordata*; radice digitato-palmata, tuberibus plurimis globosis ex apice filorum subfusiformium pendulis, foliis ovato-cordatis acuminatis concoloribus utrinque sericeo-villosis petiolis longitudine æquantibus, spica centrali supra vaginas sessili oblongo-cylindrica, bracteis ovatis obtusissimis villosis ore amplissimo patentibus, comæ lucidis violaceis apice purpureo-maculatis. *Wall.*

Curcuma *cordata*. *Wall. Pl. Asiat. Rar. v.* 1. *p.* 8. *t.* 10.

One of the most beautiful of a singularly handsome group of plants, too much neglected in our stoves, where, whether in flower or only in leaf, they add greatly to the ornament of the house. The present is among many discoveries of Dr. Wallich, who found it in thick Bamboo forests on the hills opposite Prome, and whose admirable figure and description above quoted have left nothing for future botanists to add. Plants were sent to Kew and to Syon House by Dr. Wallich, and from a flowering specimen at the latter place our figure was made in July, 1847.

Descr. A handsome herbaceous *plant*, with little that can be called a stem, and that little consisting of the sheathing bases of the leaf-stalks. *Leaves* a foot long (and petiole rather more than that) bifarious, ovate, acuminate, retuse or cordate at the base, obliquely penninerved, of a uniform full green colour.

The richly coloured spike arises from the centre of the base of the upper petioles, it is cylindrico-oblong, erect. *Bracteas* ovate, 5-fariously arranged, very obtuse, green, the apex reflexed, much darker, the upper ones forming a coma (sterile), rich violet, with a deep purple or blood-coloured spot. The structure of the flowers will be better understood by a reference to the figure. *W. J. H.*

Cult. A herbaceous tropical plant, having tuberous roots which lie dormant during the dry season, and start into growth on receiving the stimulus of moisture. It requires to be grown in a tropical house. In spring, the tubers, having been first deprived of the last year's mould, should be repotted in a fresh mixture composed of light loam and leaf-mould or turfy peat, the pots being well drained, and placed in a warm pit or frame in bottom-heat. Water should be given very sparingly till after the plant has made some growth; and as the young roots are of a soft and succulent nature, we must not allow the mould to continue long wet during the whole period of growth, for fear the roots should rot off. After flowering, the leaves soon show symptoms of decay; water must then be gradually withdrawn, and ultimately the pots require to be placed beyond the reach of moisture, while care must be taken that the mould does not become dust-dry; for if long kept in such a state, the tubers will gradually part with their moisture, and become shrivelled and decayed. The plant is increased by separating the tubers when repotted in the spring. *J. S.*

Fig. 1. Flower and bracteole. 2. Stamens and pistil. 3. Stigma :—*magnified.*

Fitch del. et lith.

R.B. & R. imp.

4436.

PACHYSTIGMA PTELEOIDES.

Ptelea-leaved Pachystigma.

Nat. Ord. Rutaceæ.—Polyandria Monogynia.

Gen. Char. *Calyx* subtriphyllus, sepalis concavis inæqualibus, æstivatione imbricatis, interiore majore, petalis conformi. *Petala* 4, libera, subrotunda, concava, alba, impunctata; æstivatione imbricativa. *Stamina* plurima, sub-30, libera, *gynophoro* magno carnoso biseriatim inserta. *Filamenta* subulata. *Antheræ* ovales, biloculares, antice longitudinaliter dehiscentes. *Ovarium* globosum, gynophoro impositum, 7–8-sulcatum, velutinum, 7–8-loculare, loculis biovulatis, stigmate magno carnoso 7–8-lobato deciduo coronatum. *Capsula* demum e cocculis 8 (quibusdam abortientibus), stellatim dispositis, basi coalitis, abortu plerumque monospermis: *epicarpio* sicco subrugoso, dorso carina lata instructo; *endocarpio* cartilagineo, demum soluto. *Semen* oblique ovatum. *Podospermum* majusculum, carnosum, album.—Frutex *seu* Arbor *humilis* Jamaicensis, *valde ramosus*; ramulis *cortice lævi viridi-fusco tectis.* Folia *alterna*, *exstipulata*, *longe petiolata*, *trifoliolata*; foliolis *ovatis*, *acutis*, *integerrimis seu obsolete serratis*, *copiose pellucido-punctatis*, *petiolulatis*, *in petiolum articulatis*, *penninerviis*; pedunculis *axillaribus*, *folio sublongioribus*, *parce subtrichotome ramosis*, pedicellis *basi bracteolatis*, bracteolis *deciduis.* Flores *majusculi*, *fragrantes*, *albi.*

Pachystigma *pteleoides.*

Pachystigma pteleoides. *Hook. Ic. Plant. 7. Tab.* 698–9.

A native of the mountains of Santa Cruz, Jamaica, where it was discovered by Mr. Purdie, in 1844, from whose dried specimens the figure was made for the Icones Plantarum above quoted. Seeds having been received at the same time, living plants were raised, which have attained a height of eight or nine feet in the Royal Gardens, and bore their cream-white very fragrant blossoms in the stove, for the first time, in February, 1849.

Descr. The *plant*, in its native country, becomes a small *tree*, of slender and rather graceful habit, with ternate, petiolate, evergreen *leaves* of a full dark-green colour, full of pellucid dots. *Peduncles* or *panicles* from the axil of the upper leaves. *Flowers* cream-colour. The five-leaved *calyx* gradually passes into the concave *petals*. *Stamens* shorter than the petals, springing in

two series from a large fleshy orange-coloured *torus* or *gynobase*. *Stigma* particularly large and deeply lobed. *W. J. H.*

Cult. A tropical shrub or small tree, requiring the temperature of the stove. It will grow in any kind of good garden-soil, if care be taken in watering, that the mould does not become stagnant. As it is of slender growth and apt to run up, it is advisable to shorten the branches so as to keep it bushy, and induce a greater number of flowering branches. It is readily propagated by cuttings, placed under a bell-glass and plunged in bottom heat. *J. S.*

Fig. 1. Pistil and gynobase. 2. Section of the ovary. 3. Stamen :—*magnified.*

Tab. 4437.

ERIOPSIS RUTIDOBULBON.

Rough-stalked Eriopsis.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Caules succulenti (pseudo-bulbosi), apice tantum foliati. *Racemus* radicalis multiflorus. *Bracteæ* minimæ. *Flores* explanati, laciniis subæqualibus oblongis obtusis, mento brevi obtuso. *Labellum* anticum, concavum, trilobum, disco lamellatum e basi producta columnæ articulatum. *Columna* semiteres, clavata, aptera. *Anthera* oblonga, subunilocularis: *pollinia* 4 inæqualia, per paria filis 2 elasticis affixa; *glandula* submembranacea, quadrata. *Lindl.*

Eriopsis *rutidobulbon*; caule (pseudo-bulbo) oblongo-ovato tereti rugoso, foliis 2 striatis, scapo radicali, racemo multifloro nutante, sepalis petalisque oblongis, labelli hirsutuli striati lobis lateralibus maximis intermedio minimo subintegro.

From New Grenada, whence it was introduced by Mr. Purdie to the Royal Gardens of Kew, where it produced its fine raceme of flowers in August, 1848. It evidently belongs to the genus *Eriopsis*, established by Dr. Lindley on a plant which flowered in the collection of J. J. Brady, Esq., the origin of which is unknown. It cannot, however, be the same species, as will be seen at once on comparing the two figures.

Descr. *Pseudo-bulbs* (rather than "*stems*") ovato-oblong, terete, of a dark purplish-black colour, singularly rough or wrinkled upon the surface, bearing two (rarely three) large, broadly lanceolate, striated, somewhat coriaceous *leaves* at the extremity; one, however, a little below the other, so that a part of the pseudo-bulb is seen between. *Scape* a foot and a half long, radical, terete, dark purple, bearing a drooping *raceme* of many flowers. *Sepals* and *petals* alike, spreading, almost horizontally, oblong, obtuse, dull orange-yellow, red-purple at the margin. *Lip* about as long as the sepals, obtusely spurred at the base behind, broadly ovate, three-lobed, the *disk* striated, lamellated, with a dull crest; the lateral *lobes* broad, involute, the *terminal* one small, orbicular, obscurely two-lobed, white, with dark purple spots; the rest of the lip is dull orange-red,

dotted with dark purple. *Column* shorter than the lip, greenish, semiterete, a little enlarged upwards. *Anther* hemispherical. *W. J. H.*

Cult. Found by Mr. Purdie growing on the smooth stem of a Palm tree, fully exposed to the sun, in the temperate region of Antioquia in New Grenada, at an elevation of between 4,000 and 5,000 feet, the thermometer falling in the morning to 65°, and rising during the day to 75°, which, on account of the less weight and consequent rarity of the atmosphere at that elevation, may be considered as equivalent to a temperature of 55° and 65° with us. We have, therefore, kept this plant in the cooler division of the Orchideous house, where it appears to thrive, potted in turfy peat, well drained, watering very sparingly in winter, and shading it from the mid-day sun in summer. This treatment, it must be confessed, is very different from what we may presume it to have received when "*growing on the smooth stem of a Palm tree, fully exposed to the sun*;" but we fear that on account of our very different climate and present adaptations for cultivation, and the rarity of plants like this, it will be some time before we venture to try the experiment of placing such plants where they will be fully exposed to our summer sun. This appears to be a very rare plant, for although Mr. Purdie was very diligent in searching, yet he never met with a second specimen. *J. S.*

Fig. 1. Lip. 2. Column and anther. 3. Pollen-masses :—*magnified.*

F. B. & F. imp.

Tab. 4438.

STIFFTIA CHRYSANTHA.

Golden-flowered Stifftia.

Nat. Ord. Compositæ—Mutisiaceæ.—Syngenesia Perdicieæ.

Gen. Char. Capitulum homogamum discoideum multi- et æqualiflorum. *Involucrum* arcte imbricatum, squamis coriaceis siccis multinerviis ovato-rotundis, int. linearibus. *Receptaculum* nudum alveolatum. *Cor.* subcoriacea, glabra, regularis, 5-fida, 10-nervia, lobis extus circinnato-revolutis. *Filam.* lævia. *Antheræ* exsertæ longe caudatæ. *Stylus* cylindricus glaber bifidus, ramis brevibus æqualibus acutis. *Achænium* glabrum elongatum brevissime rostratum. *Pappus* multiserialis palcaceus longus inæqualis, paleis linearibus serratis.—Arbores Brasilienses *glabræ.* Rami *teretes.* Folia *alterne petiolata oblonga acuminata penninervia.* Capitula *terminalia, pedunculis squamigeris. De Cand.*

Stifftia *chrysantha* ; foliis late lanceolatis acuminatis, capitulis solitariis, floribus capituli indefinitis.

Stifftia chrysantha. *Mikan, Del. Fl. Bras. Fasc.* 1. *cum Ic. De Cand. Prodr. v.* 7. *p.* 26.

Augusta grandiflora. *Leand. Akad. Mink. Phil. v.* 7. *p.* 235. *t.* 14. *non Pohl.*

Plazia Brasiliensis. *Spreng. Syst. Veget. v.* 3. *p.* 503.

Few cultivators have seen native specimens or the fine figure given by Mikan of this beautiful shrub, without feeling desirous to possess it in our stoves. It has been longer in our collections than we were aware of. Many years ago, plants of it were presented to Kew by Mr. Henderson of the Pine-Apple Nursery ; and plants have been also communicated to the Edinburgh Botanic Garden ; yet no one suspected that it was the celebrated *Stifftia* till its flowers appeared, nearly at the same time, both in Edinburgh and Kew. Our drawing was made from the Edinburgh specimen, kindly sent in February, 1849, by Professor Balfour, with the following notes. *W. J. H.*

"This plant has been flowering for some time in the Edinburgh Botanic Garden. It is a native of Brazil, and was derived, I believe, originally from Kew. It is cultivated in a warm stove.

"Descr. The *plant* is at present almost six feet high (according to Mikan it attains a height of eight to ten feet) and has six heads of very showy *flowers.* The *woody stem* is four inches and a half in circumference at the base, and the bark is rough. The primary *branches* come off in a somewhat dichotomous manner. *Leaves* lanceolate, acuminate, alternate, shortly petio-

late, entire, smooth and shining, having a single mid-rib, which is slightly penninerved both on the under and on the upper surface; *venation* reticulated, primary veins ending in curved veins within the margin. *Petiole* slightly grooved on its upper surface, articulated with the stem. *Capitula* solitary, terminal on the young branches, homogamous, containing about twenty-five discoid flowers. *Peduncles* short, thickened upwards, having small scales. *Involucre* somewhat turbinate, coriaceous, having thirty to forty imbricated scales arranged in several series, closely appressed in the young state, spreading after the corolla falls; scales green in the centre, paler towards the margins which are fringed with short hairs; outer scales short, ovate, obtuse, often tipped with black, intermediate scales longer and less ovate, innermost oblong-linear, pale greenish, and about one inch in length. *Receptacle* having milky juice, nearly flat, marked with hexagonal spaces, in the centre of each of which there is a depression or pit for the flower. *Corolla* smooth, regular, tubular, about one inch and three-quarters long, of a pale orange colour below and becoming darker above, its limb divided into five narrow, revolute circinnate segments, which when unrolled are about half an inch long. *Filaments* smooth, coloured, inserted into the upper part of the corolline tube, alternating with the segments of the limb, arching over the orifice of the tube to join the anther below the middle; *anthers* two-lobed, much exserted, bifid at the apex, ending below in a bipartite prolongation; *pollen* elliptical, furrowed. *Style* cylindrical, exserted nearly one inch beyond the corolla and about a quarter of an inch beyond the antheric tube, undulated at its lower part, straight above. *Stigma* bifid, its segments equal, acute, hairy on the inner side of its lobes, which close on the application of the pollen. *Ovary* green, triangular, three-quarters of an inch long, with a short yellowish beak at the summit whence the pappus proceeds. *Pappus* reaching to near the upper part of the corolline tube, in several rows, its hairs unequal and beautifully serrated with projecting cellular processes, of a pale orange colour, spreading much after the corolla falls." *J. H. Balfour.*

Cult. This is a shrub of a robust and bushy habit, requiring the heat of the tropical stove, and growing in any kind of garden loam not retentive of moisture. Although we have had it in cultivation for about eight years, it was only recently that it showed flower; but we are of opinion that if young plants were vigorously grown, they would not be so dilatory in producing their curious inflorescence. It is propagated readily by cuttings placed under a bell-glass in bottom-heat. *J. S.*

Fig. 1. Single flower:—*magnified.*

4 4.39.

2.

3

Fitch del et lith.

R.B. & R imp.

Tab. 4439

ERIOSTEMON INTERMEDIUM.

Intermediate Eriostemon.

Nat. Ord. Rutaceæ.—Decandria Monogynia.

Gen. Char. Cal. 5-partitus. *Petala* 5. *Stamina* 10; filamentis hispidis ciliatis aut nudis, antheris terminalibus. *Stylus* 1, brevissimus. *Carpella* 5 basi coalita. *Semina* in loculis 2 aut abortu solitaria. *Embryo* subcurvatus, radicula longa.—Frutices Arboresve *nunc* Diosmis, *nunc* Croweis, *nunc* Phebaliis *affinis*, foliis *alternis simplicibus*, floribus *axillaribus*. *De Cand.*

Eriostemon *intermedium*; ramulis pubescentibus, foliis oblongo-obovatis glaucescentibus mucronatis subtus præcipue glanduloso-punctatis, floribus pedunculis axillaribus solitariis unifloris folio duplo brevioribus, calycibus petalisque glabris, filamentis ciliatis.

Eriostemon intermedium. *Hortul.*

My first knowledge of this handsome plant was from Robert Barclay, Esq., of Knott's Green, Leyton, who obligingly brought me specimens from the plant he had exhibited at, and for which a prize was awarded by, the Horticultural Society of London, in April, 1848; and from it our drawing was made. It bore the name of "*E. neriifolium*:" but that is merely a name of Sieber's specimens, which have compound flower-stalks, and are probably not different from *E. myoporoides*, DC. (Bot. Mag. t. 3180). Since then, we find the plant is in cultivation under the garden-name of *E. intermedium*, intending probably to imply that it holds a place between *E. myoporoides* and *E. buxifolium*, which is really the case; or it may possibly be a hybrid of the two. Whichever is the case, it is eminently worthy of cultivation in every greenhouse, loaded as the shrub is with its lively blossoms (white tinged with pink in bud) during the latter winter and early spring months, when such plants are peculiarly welcome.

Descr. Our *plant* in the Kew Gardens is between two and three feet high, much branched. *Leaves* copious, scattered, spreading, three-quarters of an inch to an inch or an inch and a half long, oblong-obovate, entire, one-nerved, the margins a

little recurved, cuspidate, somewhat glaucous, especially beneath, and there having copious glandular reservoirs of oil, above sprinkled with very minute, pale dots, not visible to the naked eye. *Peduncles* on all the young branches, axillary, solitary, single-flowered, not half so long as the leaves, having a pair of minute *bracteas* near the base. *Flowers* rather large, starry. *Calyx* small, glabrous, five-lobed. *Petals* lanceolate, white; externally, especially in bud, tinged with rose-colour. *Stamens* ten, erect, alternately smaller, subulate, ciliated. *Anthers* ovate, mucronate. *Ovary* of five, ovate, acuminated lobes, seated on a large, flat, fleshy *disk*. *Styles* five, combined. *Stigma* five-lobed. *W. J. H.*

Cult. This handsome flowering shrub, being a native of New South Wales, must be kept in the green-house. It appears to thrive best in turfy peat-soil, in which is mixed a portion of sharp white sand. It is necessary to have the pots well drained with potsherds, and the drainage will be much assisted by mixing pieces of charcoal with the soil. In order to obtain a handsome specimen, the plant must be carefully tended, shifting it at the proper time into a larger pot, and carefully training it into a neat form. To make it become bushy, the principal leading shoots should occasionally be shortened. During summer, it will require attention in watering, and the pot should be so placed that the sun's rays do not fall on the sides. It is propagated by cuttings placed under a bell-glass in bottom-heat, or by grafting it on stocks of *Correa alba*. *J. S.*

Fig. 1. Portion of leaf, back view. 2. Flower from which the petals are removed. 3. Stamens. 4. Pistil and fleshy disk :—*magnified.*

Fitch del. et lith.

R.B. & R. imp.

Tab. 4440.

CŒLOGYNE FULIGINOSA.

Dark-flowered Cœlogyne.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. *Sepala* conniventia v. patentia, libera, æqualia, petaloidea. *Petala* nunc sepalis conformia, nunc linearia. *Labellum* cucullatum, sæpius trilobum, lineis disci elevatis v. cristatis, nunc integerrimum ecristatum. *Columna* erecta libera margine alata, apice dilatata, nunc cucullata, stigmate bilabiato. *Anthera* bilocularis, septo medio non partibili, infra apicem columnæ inserta. *Pollinia* 4, libera, incumbentia ; nunc basi materie granulosa cohærentia.—Herbæ *supra arbores et saxa vigentes*, foliorum *basibus in* pseudo-bulbis *dilatatis*, rhizomate *nunc crasso squamoso nunc obsoleto.* Folia *coriacea sæpius venis distinctis æqualibus, nunc quibusdam crassioribus costata v. plicata.* Racemi *terminales v. radicales v. squamis* (bracteis sterilibus) *corneis erumpentes.* Flores *speciosi sæpe odorati. Lindl.*

Cœlogyne *fuliginosa ;* caudice repente squamoso, pseudo-bulbis parvis oblongis compressis lævibus, foliis binis lato-lanceolatis, racemo terminali bracteato 4–5-floro, sepalis ovato-oblongis, petalis ovalibus duplo minoribus, labelli spathulati disco bilamellato lamellis crispatis, lobis lateralibus brevibus convolutis, terminali orbiculato ciliato fimbriato.

Cœlogyne fuliginosa. *Lodd. Cat.*

From the stove of the Royal Gardens, derived from the collection of the Rev. Mr. Clowes. A native of India, and imported in the year 1838 : we have since received it direct from Calcutta.

Descr. From an elongated, creeping, scaly *caudex*, about as thick as a swan's quill, arise, at rather distant intervals, the oblong, somewhat compressed, smooth, green *pseudo-bulbs*, scaly at the base, bearing above two broadly lanceolate, waved, very acute, between membranaceous and coriaceous, faintly striated *leaves*. *Raceme* of from three to five rather large, handsome, secund *flowers*, each when young and in bud enclosed in a sheathing, narrow, acuminated *bractea*. *Perianth* ochre-yellow ; *sepals* oval-oblong, rather acute, concave ; *petals* shorter than the sepals (and with the upper sepal almost connivent over the column). *Lip* large, oblong-spathulate, three-lobed, ochraceous, the *disk* dark purple-brown, and furnished with two elevated crisped lines or *lamellæ*, three-lobed ; side lobes convolute,

middle lobe orbicular. *Column* long, winged on each side above. *W. J. H.*

Cult. This, being a tropical epiphyte, requires to be kept in the warm division of the orchideous house. With us it is attached to a block of wood suspended from the roof, receiving the same treatment with regard to heat and moisture as Indian epiphytal Orchidaceæ. The chief point to be observed is to keep it more or less moist according to its season of growth, shading it from the mid-day sun in summer. *J. S.*

Fig. 1. Column. 2. Anther-case. 3 and 4. Front and back view of the pollen-masses. 5. Front view of the lip :—*magnified*.

Fitch del et lith.

R. B. & R. imp.

Tab. 4441.

THYRSACANTHUS BRACTEOLATUS.

Bracteolated Thyrsacanthus.

Nat. Ord. Acanthaceæ.—Diandria Monogynia.

Gen. Char. (Vide supra, Tab. 4378.)

Thyrsacanthus *bracteolatus;* suffruticosus glaber, caule tetragono, foliis lanceolatis acuminatis sessilibus, panicula terminali brevi thyrsoidea, ramis pseudo-verticillatis bracteatis, corolla elongato-subinfundibuliformi limbi oblique subregularis profunde divisi, laciniis elongatis lineari-oblongis, staminibus exsertis sterilibus subulatis brevissimis.

Thyrsacanthus bracteolatus. *Nees, in De Cand. Prodr. v.* 11. *p.* 325.

Justicia bracteolata. *Jacq. Coll. v.* 3. *p.* 253. *Ic. Rar. v.* 2. *t.* 205. *Vahl, Enum. v.* 1. *p.* 128.

Odontonema lucidum. *Nees, in Linnæa, v.* 16. *p.* 300. *(excl. syn. Andr.)*

A plant originally referred by Jacquin to *Justicia,* but evidently of the same genus of *Acanthaceæ* as that figured at Tab. 4378, resembling it in many respects. It differs in the much narrower and truly lanceolate leaves, and still more in the very different inflorescence, and in the deep and narrow divisions of the limb of the corolla. It inhabits New Grenada and the West Indian Islands, and is here figured from plants reared in the stove of the Royal Gardens from seeds sent by Mr. Purdie from Jamaica.

Descr. *Stem* two to three feet high, four-angled, dark purple-brown. *Leaves* opposite, five or six inches long, nearly sessile, lanceolate, entire, slightly undulate, penninerved, acuminated. *Panicle* thyrsoid, terminal, obtuse. *Branches* pseudo-verticillate, slender, again divided and bearing several small, opposite, linear-oval *bracteoles. Calyx* small, naked, the five subulate segments equal. *Corolla* scarlet, in our specimens an inch and a half long; *tube* slender, narrow below, bent down as it were at an angle in the middle, and from that point funnel-shaped; the *limb* unequal, two-lipped, deeply divided into five long, narrow, spreading segments, sprinkled with glandular dots. *Stamens* slightly exserted, except the two sterile ones, which are quite

included. *Style* also included. *Ovary* on a large fleshy disk. *Stigma* bifid. *W. J. H.*

Cult. An upright suffruticose shrub, requiring tropical heat, and growing freely in any kind of light soil not retentive of water. Its flowers are produced at the apex of the branches; and on account of its upright habit of growth, it does not readily form a bushy plant, even although the leading shoots are stopped. It is propagated freely by cuttings placed under a bell-glass. *J. S.*

Fig. 1. Corolla laid open. 2. Pistil. 3. Anther :—*magnified.*

R.B. & R.imp.

Tab. 4442.

PESOMERIA TETRAGONA.

Square-stalked Pesomeria.

Nat. Ord. Orchidaceæ.—Gynandria Monandria.

Gen. Char. Sepala subæqualia libera, sponte decidua. *Petala* conformia, basi columnæ adnata, persistentia. *Labellum* posticum, cum columna connatum, basi gibbosum, limbo indiviso convoluto. *Columna* clavata semiteres, clinandrio dentato. *Pollinia* 4 cuneata.—Herba *terrestris;* caule *tetragono*, foliis *membranaceis plicatis*, racemo *laterali simplici*, bracteis *sponte secedentibus;* radicibus ***crassis simplicibus fibrosis. Lindl.***

Pesomeria *tetragona.*

Pesomeria tetragona. *Lindl. in Bot. Reg. Misc.* 1838, *n.* 6.

Epidendrum tetragonum. *Thouars, Orchid. Afr. t.* 33, 34.

A very remarkable Orchideous plant, native of the Isle of Bourbon, introduced to our stoves by the Messrs. Loddiges, but first detected and described, as an *Epidendrum*, by M. Aubert du Petit Thouars. Dr. Lindley has rightly determined it to be a very distinct genus, to which he has given the name of *Pesomeria*, from πιπτω, to *fall off*, and μερος, *a part;* in allusion to the sudden falling off of the convolute bracteas, of the sepals and petals also, leaving the labellum (which is decurrent with the base of the column), as shown in the two lower flowers in the spike of our figure. Dr. Lindley observes that the genus differs from *Bletia* in its four, not eight, pollen-masses; but in our plant each pollen-mass is two-lobed, as if of two combined.

Descr. *Stem* a foot or more high, erect, jointed, about as thick as the human finger, sharply four-angled and almost winged at the angles. *Leaves* inserted at the articulations, ovato-lanceolate, striated and somewhat plaited, membranous, much acuminated. *Peduncle* arising from the inner base of a lateral leaf, a foot high, bracteated. *Flowers* rather large, eight to ten in a lax *spike*. *Floral* bracteas sheathing, deciduous. *Sepals* and *petals* uniform, spreading, oblong, acute, greenish externally, within red-brown, tinged with green. *Lip* applied close to the column, the base decurrent with it, the side lobes

convolute around it, the middle lobe crisped and terminated by a large mucro, downy within: the colour yellow, with streaks of orange-red, and there are three lamellæ in the centre. *Column* winged above and dentate at the apex. *Anther-case* hairy, bifid. *Pollen-masses* four, unequal, all of them bifid. *W. J. H.*

Cult. Before we can cultivate certain plants with success, we require some knowledge of the climates in which they grow, so as to adapt the means we have in our power as far as possible to meet their several peculiarities. This plant is said to be a native of the Island of Bourbon, situated within the southern tropic, and distinguished by a moist climate, caused by the periodical rains, which fall twice a year; also by the daily land and sea breezes, the former wafting cold vapours from the high mountains of the interior, which are said to be covered with snow during several months of the year; and the latter bringing fogs from the ocean. Now, although we know this to be the general character of the climate, we are still unacquainted with the nature of the locality of this plant, which may be subjected to many local influences; and our want of this precise knowledge may to a certain extent be the cause of its slow growth with us. It has been kept in the warm division of the Orchideous house, potted in turfy peat—the usual precautions being taken to prevent the soil from becoming stagnant. *J. S.*

Fig. 1. Column and decurrent and gibbous base of the lip. 2. Anther-case. 3. Pollen-masses. 4. Lip:—*magnified.*

Tab. 4443.

CEREUS reductus.

Dingy Cereus.

Nat. Ord. Cacteæ.—Icosandria Monogynia.

Gen. Char. (Vide supra, Tab. 4417.)

Cereus *reductus;* erectus elongatus cylindraceus lurido-virens longitudinaliter plurisulcatus, sulcis profundis sub 14, costis tuberculatis, tuberculis seu mamillis ovalibus obscure hexahædris convexis compressis conspicue areolatis, areolis lanatis, spinis sub 11 rectis acicularibus inæqualibus rectis fuscis apice rigidissimis basi interioribus junioribus fulvis sub-8 elongatis validioribus reliquis quintuplo minoribus, floribus subaggregatis terminalibus, calycibus inermibus basi squamosis, petalis (albis roseo-tinctis) oblongo-spathulatis subserratis mucronatis.

Cereus reductus. *Link, Enum. v.* 2. *p.* 21. *Pfeiff. Cact. p.* 75.

Cactus nobilis. *Haw. Syn. p.* 174 *(not Aiton, Hort. Kew).*

An old inhabitant of the Cactus house of the Royal Gardens, originally received from Mexico. A very dingy looking species except when in flower, when the pure white corollas, with a slightly pink tinge, have a very pretty effect.

Descr. *Stem* sometimes attaining a height of three feet, erect, terete or cylindrical, four to five inches broad, dingy glaucous-green, deeply furrowed longitudinally with about fourteen or fifteen furrows, the ridges tuberculate or mamillate; *mamillæ* large, in a regular series, very convex, oval or obscurely six-sided, compressed, the centre having a conspicuous woolly *areola* from whence diverge about eleven sharp aciculated spines, of which the greater number are large, tawny in the young state, brown when old, always deeper at the base, three or four are much the smaller of the cluster. *Flowers* two or three or more together, from the summit of the plant. *Calyx-tube* dark green, glabrous, scaly with remote scales, which upwards gradually pass into oblong *sepals* with white margins, and those again into the spreading *petals*, white, partially tinged with rose, the apex slightly serrated and mucronate. *Stamens* numerous,

very compact. *Stigma* of many erecto-patent, subulate, downy rays. *W. J. H.*

Cult. An old inhabitant of this garden, said to be a native of Mexico; but we have no knowledge of the particular locality, never having received it amongst the numerous collections imported of late years from different parts of South America. We have grown it in a mixture of loam and lime rubbish siftings, and kept it in a house the temperature of which averages 50° in winter. During that season we give it little or no water, but in summer allow it to receive the full power of the sun, and in hot dry weather frequently sprinkle it with water over-head, which should be always done in the morning, before the sun is powerful, or in the evening. Care must be taken not to allow the mould in the pot to become excessively wet; for if it continue in a wet state, the soft roots are apt to be destroyed. As this species rarely produces off-sets, it is still a rare plant in this country. *J. S.*

Fitch del et lith.

Reeve Benham & Reeve imp

Tab. 4444.

CYRTANTHERA CATALPÆFOLIA.

Catalpa-leaved Cyrtanthera.

Nat. Ord. Acanthaceæ.—Diandria Monogynia.

Gen. Char. Cal. 5-partitus quinquefidusve, æqualis, laciniis coloratis tenuibus lanceolatis. *Corolla* ringens, tubo longo, lobis profunde divisis æqualibus, superiore complicato lineari-falcato, inferiore elongato-obconico apice trifido, laciniis brevibus conniventibus, media plerisque angustiora apice complicato-recurva. *Stamina* duo, basi tubi inserta eidemque ultra medium adnata, longitudine labii superioris, apice recurva. *Anthera* cernua, brevis, bilocularis, loculis antrorsum dehiscentibus margine membranaceis in connectivo plerisque semilunari apice recurvo carinato subsecundis, lateribus plerumque arcte contiguis muticis, altero paullo demissiore, subinde connectivo protracto omnino distantibus. *Stigma* obtuse unilabiatum. *Fructus* . . . .—Frutices *caule valido*, foliis *amplis latis petiolatis*, floribus Aphelandræ *magnis et angustis*. *Plerisque* thyrsus *terminalis decompositus, densissimus, multiflorus, speciosus*, ramis *secundifloris*, bracteis *bracteolisque calyce longioribus plerumque coloratis teneris, illis latioribus. Nees.*

Cyrtanthera *catalpæfolia ;* caule fruticoso erecto tetragono, foliis sublonge petiolatis late cordatis acuminatis integerrimis basi truncatis, floralibus ovatis basi in petiolum brevem attenuatis, thyrso amplo ovato compacto, bracteis sepalisque lineari-subulatis, floribus flavis.

Cyclanthera catalpæfolia. *Nees, in Herb. Hook.*

This is a truly handsome and new plant, equally striking for its ample foliage and its fine thyrsi of full yellow flowers. It was obligingly sent to the Royal Gardens of Kew by Mrs. M'Donnel (the Lady of the Governor) from Honduras, and it flowers in the stove in the summer months. It constitutes one of the same genus of *Acanthaceæ* with *Justicia* (Bot. Mag. tab. 3383).

Descr. Our plant is five to six feet high, erect, branched ; the *branches* opposite, as well as the *leaves*, which are petiolate, large, cordate, acuminate, entire, penninerved, truncated at the base, beneath the inflorescence is a pair of what may be called *floral-leaves*, much smaller than the others and tapering below into a short footstalk. *Panicle* or *thyrsus* dense, compact. *Peduncles* short, compound. *Bracteas* small, linear-subulate.

May 1st, 1849.

Calyx-segments almost equally narrow, but shorter. *Corolla* large, yellow, tubular, cut almost half-way down into two gaping lips; the *upper* erect, complicate, entire (in which the stamens are lodged); *lower* lip reflexed, spathulate, channelled, three-toothed at the apex. *Ovary* oblong, smooth, sunk into a cup-shaped *gland*. *Style* very long, slender, filiform: *stigma* capitate. *W. J. H.*

Cult. This is a soft-wooded, shrubby, tropical plant, of a rather weedy, naked habit, producing its handsome head of flowers on the apex of upright shoots. It will grow freely in any light kind of soil; but in order to obtain a large head of flowers a young healthy plant must be selected and potted in a mixture of good loam and leaf-mould or turfy peat. It should then be placed in a warm part of the stove, and shifted into a larger pot as it becomes necessary. During the summer, when it is in rapid growth, it should be watered freely, observing that the mould does not become stagnant, which will sometimes happen with soils composed of a portion of leaf-mould. Care should therefore be taken to have the pots properly drained. It is readily propagated by cuttings, placed under a bell-glass, or in a frame. *J. S.*

Fig. 1. Calyx with bracteas and pistil. 2. Ovary with the glandular cup at the base:—*magnified*.

Fitch lith

R.B. & R. imp.

Tab. 4445

LYCASTE Skinneri.

Mr. Skinner's Lycaste.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4193.)

Lycaste *Skinneri;* bractea herbacea acuta cucullata ovario multo longiore, sepalis patentibus oblongo-lanceolatis acutis, petalis duplo brevioribus ovalibus erectis supra columnam convolutis apicibus reflexis, labelli 3-lobi lobis lateralibus erectis truncatis intermedio longiore ovato-rotundato deflexo, appendice carnosa linguæformi inter lacinias laterales locata, columna subtus pubescente. *Lindl.*

Lycaste Skinneri. *Lindl. Bot. Reg.* 1843. *Misc. p.* 15.

Maxillaria Skinneri. *Bateman in Bot. Reg.* 1843, *Misc. n.* 13. *Orchid. Mex. et Guat. tab.* 35 *(not Lindl. Bot. Reg.* 1840, *Misc. n.* 101).

Mr. Bateman, who has done great justice to this plant by his splendid figure above quoted, says with truth: "This is the *facile princeps* of all known Maxillarias;" and with equal justice does he dedicate this fine species to its discoverer, J. Urc Skinner, Esq., to whom the Orchideous stoves of Europe are indebted for their most brilliant ornaments. "It is a native of Guatemala, and remarkable no less for the large size of the blossoms, than for their chaste colouring, white spotted and suffused with rich rose and crimson. It is a ready flowerer, and the flowers remain a long time in great beauty.

Descr. *Pseudo-bulbs* oblong-ovate, compressed, bearing at the top a pair of large, oblong-lanceolate, membranaceous, plaited *leaves*. *Scape* radical, single-flowered, shorter than the leaves, furnished with five or six sheathing bracteas, the upper one sheathing the ovary. *Flower* very large, of a thickish and almost waxy texture. *Sepals* (five or six inches across from tip to tip) patent, oval, acute, faintly striated, white tinged with blush. *Petals* smaller than the sepals, broadly ovate, very acute, concave, also faintly striated, white, more tinged with blush than the sepals, almost conniving so as to form a hood over the column, the

apices recurved. *Lip* white, variously tinged and spotted with deep rose red, almost crimson blotches, three-lobed, the side lobes rounded, erect, the middle lobe broadly ovate, reflexed, the margin waved, the *disk* furnished with a large fleshy tongue-shaped callosity. *Column* semiterete, in front clothed with rather copious woolly hair. *W. J. H.*

Cult. This beautiful plant is of easy cultivation, and thrives in the cool division of the Orchideous house. We grow it in turfy peat or sphagnum, and instead of using common garden-pots, we prefer shallow pans full of holes; for it is observed that plants with the habit of *Lycaste* require only a few inches of soil; consequently, if common garden-pots be employed, they will have to be filled nearly to the margin with potsherds or other open material, which becomes a harbour for insects. With the shallow pans this is avoided. In fixing the plants on the pans we keep them raised above the margin, and by so doing a greater surface is given to the roots which are often superficial. This also prevents any evils arising from over watering, which must be carefully avoided. It is propagated by divisions of the pseudo-bulbs. *J. S.*

Fig. 1. Column:—*magnified.*

Tab. 4446.

SOBRALIA macrantha.

Large-flowered Sobralia.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Perianthium maximum, petaloideum, subæquale; sepalis patentibus (petalis erectis, *Lindl.*). *Labellum* cucullatum columnam amplexans, basi angustatum, disco plicato-barbatum, apice bilobum. *Columna* elongata, marginata, clavata, apicis trifidi, lobo medio cucullato antherifero. *Stigma* marginatum, basi gibbero gemino nectarifero. *Anthera* terminalis, stipitata, semiquadrilocularis. *Pollinia* farinacea 4, compressa, postice cohærentia et contortuplicata, ecaudiculata.—Herbæ *Americæ æquinoctialis, terrestres, simplices, sæpe triorgyales, foliosissimæ;* foliis *plicatis;* floribus *racemosis terminalibus vel axillaribus geminis niveis roseis, sanguineis, violaceisve. Lindl.*

Sobralia *macrantha;* elata, foliis patenti-recurvis lato-lanceolatis rigidis tenui-acuminatis floralibus triplo minoribus, racemo terminali folioso pauciflore, perianthio amplo patentissimo, sepalis oblongis, petalis latioribus margine superne undulato-crispato, labelli apice latissimo rotundato-bilobo margine undulato.

Sobralia macrantha. *Lindl. in Sertum Orchid. sub. t.* 29. *Gen. et Sp. Orchid. p.* 431. *Bot. Reg.* 1842, *Misc. n.* 65.

This belongs to a very fine genus of Orchideous plants, as Dr. Lindley observes, having reed-like stems and handsome flowers, natives of tropical America; and the finest of all the species is the one here figured for the first time, from plants growing in the Royal Gardens, collected by Mr. Skinner in Guatemala. Our figure is no exaggerated representation of the plant: in point of colour it falls far short of reality, for it is of that deep purplish-rose colour, which every botanical artist knows is so difficult to imitate upon paper.

Descr. Terrestrial. *Stems* erect, aggregate, erect, terete, glabrous, jointed. *Leaves* from every joint, patent-reflexed, broad, lanceolate, rigid, much and very narrowly acuminate, almost caudate, plaited, the base forming a brown sheath around the stem. *Flowers* very large, few on each stem, terminal; one flower (on each stem) is open at a time, having at its base a large, leafy *bract*, resembling the stem-leaf, but much smaller. *Peri-*

anth patent-reflexed, of a rich, deep, purple-rose colour. *Sepals* oblong, the edges even; *petals* much broader, otherwise similar, but the edge in the upper half waved and crisped. *Lip* very large, the lower half forming a laterally compressed tube around the column: the apex expanding into a broad rotundate, two-lobed, crisped *lamella*, with a pale, somewhat heart-shaped yellow spot at the base. *Column* elongate, clavate, with a lateral tooth on each side, the anther at the top. *W. J. H.*

Cult. The plant producing this splendid flower, belongs to a genus of terrestrial Orchids of a peculiar habit, having slender reed-like, leafy stems, varying from two to ten or more feet in height, which spring from a fascicle of thick fleshy roots. The species now figured is a native of Mexico, and is found to thrive best when kept in the cool division of the Orchideous house, the average winter temperature ranging between 55° and 60°. A light free soil suits it, which should be composed of a mixture of sandy peat and light loam, with the addition of a little leaf-mould. On account of its thick fleshy roots it is necessary to give it more pot-room than its slender habit would seem to require; and as the roots are not inclined to go deep, wide shallow pots or pans are to be preferred, taking care to have the pot properly drained so as to allow free watering and syringing during summer, without the chance of the mould becoming saturated. Too much water should not be given in winter, during which season it is apt to be attacked by *thrips*. If these are not checked in time, the plant will soon assume a sickly appearance, owing to the cuticle of the under-side of the leaves having been destroyed by this minute but troublesome insect. Repeated fumigation with tobacco does much to keep them under, but it is advisable to remove the plant to a convenient place and apply the syringe to the under-side of the leaves, taking care that the water is at a proper temperature. It is increased by separating the roots, which requires to be done very carefully, so as not to break them; like many other monocotyledonous plants with thick fleshy roots, when broken they seldom or never make side-roots, the broken ones continuing to decay back to their origin. *J. S.*

Fig. 1. Column:—*natural size*.

Fitch. lith.

R. B & F. imp.

Tab. 4447.

LAPAGERIA rosea.

Rose-coloured Lapageria.

Nat. Ord. Smilaceæ.—Hexandria Monogynia.

Gen. Char. Perianthium corollinum hexaphyllum campanulato-connivens. *foliola* exteriora basi concavo-carinata, interiora latiora subunguiculata. *Stamina* 6, imis perianthii foliolis inserta, alterna paulo majora; *filamenta* subulata, libera, antheræ basi fixæ. *Ovarium* uniloculare, placentis parietalibus tribus, ad suturas longitudinalibus. *Ovula* plurima, muco involuta, orthotropa. *Stylus* cylindricus: *stigma* clavatum. *Bacca* ovato-oblonga, unilocularis, polysperma. *Semina* obovata, truncata, cornea, luteo-fulvescentia, in pulpe nidulantia.—Suffrutex *Chilensis*, *volubilis;* radice *fasciculata*, caule *teretiusculo*, foliis *alternis*, *ovato-lanceolatis*, *cuspidatis*, *nervosis*, *reticulato-venosis*, pedunculis *axillaribus* ***solitariis, unifloris, squamoso-bracteatis. Endl.***

Lapageria *rosea*.

Lapageria rosea. *Ruiz. et Pav. Fl. Perur. v.* 3. *p.* 65. *t.* 297. *Spreng. Syst. Veget. v.* 2. *p.* 99.

No European cultivator of plants could see the figure of *Lapageria* in Ruiz and Pavon, and read their description of the flowers "penduli, formosissimi: corolla rosea, aliquando roseo-punicea, intus punctis albis maculata," without an earnest desire to possess living specimens; but it was not till the year 1847 that the Royal Gardens of Kew were first favoured with one from Concepcion (Chili) through the kindness of Rd. Wheelwright, Esq., an American gentleman, who has been instrumental in establishing steam-navigation in the Pacific, and who thus enjoyed superior means for the transport to England. The following year, Messrs. Veitch and Sons were no less fortunate in importing it, through their collector, Mr. Thomas Lobb; but though extremely flourishing and now six feet high with Messrs. Veitch, it is to be regretted it has not yet blossomed: and our flowers are taken from dried specimens, aided by coloured figures made in the native locality. This colour is said, by Ruiz and Pavon, to vary from rose to rose-crimson, as represented in our figure. Dr. Lindley constituted of this and of the nearly allied, and scarcely less beautiful, *Philesia*, the Order

Philesiæ; but Dr. Hooker, in his Flora Antarctica, vol. ii. p. 355, considers that, along with *Callixene*, it naturally ranks with *Smilaceæ*: an opinion which is strengthened by the fact that, as related by Ruiz and Pavon, the roots are used by the Chilenos as a substitute for *Sarsaparilla* (*Smilax Sarsaparilla*). The large oblong, pulpy berry, which we have not seen, is prized as an esculent fruit, having a sweet and most agreeable flavour. The genus was named in compliment to *Joséphine Lapagerie*, wife of Napoleon Bonaparte, who rendered great services to Botany by the cultivation of exotic plants in the beautiful gardens of Malmaison, and by the encouragement she gave to works on Botany.

Descr. *Stem* many feet in length, climbing, terete, branched, naked below, here and there scaly. *Leaves* petiolate, ovato-lanceolate, coriaceous, glossy, acuminate, five-nerved and reticulated. *Peduncles* axillary and solitary, longer than the petioles, bearing a single, handsome, lily-like pendulous *flower*, of a deep red-rose-colour, internally especially spotted with white. Outer *sepals* spathulate, with a gibbosity at the base, inner ones resembling them, but broader and more spotted. *Stamen* and *style* shorter than the perianth. *W. J. H.*

Cult. Our knowledge as regards the culture of this plant is very limited. It is now rather more than two years since we received it from Chili, but owing to the circumstance of the roots having been injured in removing the plant from its native locality, and also to their monocotyledonous nature, they have continued to die back, and the plant has not yet shown symptoms of making a new growth. But judging from analogy there can be no doubt that this singular and beautiful plant, when once established, will prove to be of easy cultivation. Its habit is that of some species of *Smilax*, or rather more like *Eustrephus* and *Geitonoplesium*, the species of which are well known to be robust climbing plants in the greenhouse. *Lapageria* being a native of Chili, it may be expected to prove tolerably hardy; but it is safest to keep it in the greenhouse till its nature is better known, which can only be learned by experience. *J. S.*

1.

2.

B B & R imp

Tab. 4448.

STEMONACANTHUS MACROPHYLLUS.

Large-flowered Stemonacanthus.

Nat. Ord. Acanthaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx supra basin 5-partitus, æqualis. *Corolla* ex infundibuliformi-hypocrateriformis, id est, faucibus elongatis obconicis, limbo patentissimo reflexove. *Stamina* 4 longe prominentia, tubi mediocris apici inserta, basi perparia connata faucibusque longiore tractu adnata: *antheræ* biloculares connectivo latiusculo demum sæpe complicato et tum loculis arctissime contiguis secundis, dorso antheræ carinato, antheram unilocularem fingentibus, loculis margine membranaceis. *Stigma* bilabiatum labiis planis acutis crassiusculis, superiore breviore. *Capsula* ad basin brevi spatio contracta et asperma, hinc magis inflato-ovata vel oblonga et ad basin cavi tetra-octosperma. *Semina* retinaculis subtensa, plana. *Retinacula* apice tridentata.—Frutices *Americani speciosi*, foliis *medii caulis sæpe ternis*. Inflorescentia *plus minus glandulosa-pilosa, raro glandulosa; vel* panicula *terminalis, trichotoma, bifida*, floribus *sæpe alternis brevipedicellatis vel abbreviatis ramis inflorescentia thyrsoidea; vel denique flores in axillis foliorum superioribus solitarii sessiles*. Bracteæ *parvæ, lineares, angustæ obtusæ, patentes vel reflexæ persistentes rariorive exemplo deciduæ*. Bracteolæ *nullæ*. Flores *coccinei*. *DC.*

Stemonacanthus *macrophyllus*; caule fruticoso erecto, ramis foliisque ovatis ovatove oblongis apicem versus attenuatis basi acutis repando-crenatis petiolatis utrinque subtilissime puberulis, pedunculis v. folia æquantibus bifloris v. umbellatim quadrifidis multifloris folio longioribus, bracteis lanceolatis pedicellos æquantibus, calycibus ad $\frac{1}{2}$ 5-fidis basi bibracteolatis glabriusculis, corolla tubulosa. *Nees.*

Stemonacanthus macrophyllus. *Nees in De Cand. Prodr. v.* 11. *p.* 205.

Ruellia macrophylla. *Vahl, Symb. v.* 2. *p.* 72. *t.* 39. *Lindl. Bot. Reg.* 1846, *t.* 7.

A handsome-flowered plant, easily increased by cuttings, but more desirable in a young state (when it readily blooms) than when it has attained a large size, for then the foliage predominates too much. It is an old species of Vahl, but only recently, so far as we know, introduced to our stoves, by one of the collectors for the Royal Gardens of Kew, Mr. Purdie, in 1844, from St. Martha, and apparently other places in New Grenada as well as

in Mexico and in Jamaica. It flowers throughout the summer months.

Descr. *Plant* three to four feet high, shrubby below, the rest herbaceous: *branches* terete. *Leaves* opposite, petiolate, ovate, acuminate, penninerved, reticulated, the margin sinuated or indistinctly toothed, puberulous. *Panicles* long as or longer than the leaves spreading, di-trichotomous: *peduncles* and *pedicels* slender, bracteated, *flowers* large, handsome, subsecund. *Calyx* oblong, tubular, with two bracteas at the base, half to three-quarters of an inch long, green, cut as far as the middle into five nearly equal, linear-lanceolate, obtuse, ciliated, erect segments. *Corolla* between two and three inches long, bright scarlet: the *tube* curved, broader upwards, but laterally compressed, somewhat plaited, yellow within: *limb* large, cut into five nearly equal, oblong, obtuse lobes, which soon become reflexed, four above and one below. *Stamens* exserted: *anther* oblong, sagittate, two-celled. *Ovary* on a large fleshy gland. *Style* filiform, longer than the stamens: *stigma* of two linear, very unequal lobes. *Capsule* clavate, many-seeded. *W. J. H.*

Cult. An erect soft-wooded plant, requiring the heat of the stove, and growing freely in dry good garden-soil. Like many other allied *Acanthaceæ*, its habit is to grow up thin and naked. To induce lateral flowering branches, it is necessary to stop the leading shoots. It is readily increased by cuttings. *J. S.*

Fig. 1. Pistil:—*natural size.* 2. Capsule:—*magnified.*

P.J.R. lith.

R. B. & R. imp.

Tab. 4449

ASYSTASIA SCANDENS.

Climbing Asystasia.

Nat. Ord. Acanthaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx 5-partitus, æqualis. *Corolla* subinfundibuliformis, limbo 5-fido, subæquali, lacinia supera concaviuscula. *Stamina* 4 didynama, inclusa, per paria basi connata. *Antheræ* biloculares loculis parallelis basi callosis vel appendiculatis. *Stigma* capitatum, bilobum vel bidentatum. *Capsula* basi compresso-attenuata, asperma, superius depresso-tetragona, bilocularis, tetrasperma. *Semina* retinaculis sustensa, discoidea, basi angulo prominente.—Plantæ *Indiæ orientalis, Asiæ et Africæ calidioris et temperatæ, herbaceæ vel fruticulosæ, laxæ, diffusæ, subsarmentosæ. Racemus spiciformis, secundus, axillaris vel terminalis.* Bractea *communis et propriæ exiguæ æquales.* Flores *cæruleo varii, sat speciosi.* *D. C.*

Asystasia *scandens;* scandens, foliis obovatis (ovatisve) acutis brevi-petiolatis glabris, racemis terminalibus compactis thyrsiformibus, pedicellis basi bracteatis, calycis segmentis lineari-lanceolatis ciliatis, corollæ tubo superne ampliato curvato, limbi lobis ovato-rotundatis marginibus crenato-crispatis, staminibus glandulosis.

Asystasia scandens, *Lindl. Bot. Reg.* 1847. *t.* 31. (*under Henfreya*).

Asystasia quaterna, *Nees, in De Cand. Prodr. v.* 11. *p.* 166. *et p.* 724.

Henfreya scandens, *Lindl. l. c.*

Ruellia quaterna, *Thonn. Schum. in Plant. Guin. Sech. v.* 2. *p.* 58.

A remarkable African climbing *Acanthaceous* plant. Dr. Lindley had judged it to be nearly related to Thonning's *Ruellia quaterna*, to which indeed Dr. Nees von Esenbeck has without doubt referred it, and this again to his genus *Asystasia*. In this we follow him, preferring, however, Dr. Lindley's specific name, which is expressive, while that of Thonning can only tend to mislead, the number of the flowers being, in cultivation at least, anything but constant. This is one of the many fine plants introduced to our stove by Lord Derby, through the instrumentality of Mr. Whitfield. It flowers readily and remains a long time in blossom, in the Royal Gardens.

Descr. A climbing *shrub*, with terete *stems* and *branches*,

glabrous. *Leaves* opposite, on short thick *petioles*, generally obovate, sometimes ovate, acute, penninerved, entire, of a dark rather glossy green, thickish and somewhat fleshy. *Racemes* terminal, thyrsoid, of many large yellowish-white or cream-coloured *flowers*, having often a tinge of blush. *Pedicels* opposite, subtended by a pair of subulate connate *bracteas* and a pair of smaller ones on the pedicel itself. *Calyx* naked, cut to the base in five-linear lanceolate ciliated equal segments. *Corolla* large, slightly hairy, the *tube* curved, the narrow cylindrical portion as long as the calyx, when it becomes suddenly enlarged and campanulate, spreading into a five-lobed nearly equal *limb*, the throat somewhat hairy, the lobes broadly ovate, obtuse, veined, the margin crenato-crisped. *Stamens* shorter than the tube, glandular. *Anther* dark-purple; *cells* aristate below. *Ovary* on a large gland. *Style* included. *Stigma* two-lobed. *W.J.H.*

Cult. Most of the *Acanthaceæ* cultivated in our hot houses consist of soft-wooded plants, soon becoming unsightly, and requiring to be frequently renewed by bringing forward young healthy plants. The present species is rather an exception; for although it is of a straggling somewhat scandent habit, yet it is worthy of notice not only on account of its pretty flowers but also for its full and fine dark-green foliage, not subject to insects. Being a native of Sierra-Leone it requires to be grown in a hot and moist atmosphere. A mixture of loam and peat with the addition of a little leaf-mould will suit it, the pot being placed in a position to receive bottom heat. On account of its scandent habit it requires to be supported, either by stakes or trained to a neat wire trellis fixed to the pot. Cuttings take root readily, when placed in pans under a bell-glass and plunged in bottom heat.

Fig. 1. Pistil. 2. Stamen:—*magnified.*

4450.

Fitch del et lith

R B. & F. imp

Tab. 4450.

DENDROBIUM Cambridgeanum.

Duke of Cambridge's Dendrobium.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (Vide supra, Tab. 4352.)

Dendrobium *Cambridgeanum;* caulibus pendulis articulatis foliosis, foliis ovato-lanceolatis acutissimis carnosis striatis basi oblique sessilibus, pedunculis bifloris, sepalis (basi in cornu elongatis decurrentibus) petalisque conformibus oblongis acutis patentibus, labello cucullato unguiculato latissime subrotundato sinuato margine reflexo supra densissime villoso, anthera punctis elevatis rugosa.

Dendrobium Cambridgeanum, *Paxton, Mag. of Bot. t.* 265. *Lindl. Bot. Reg.* 1841. *Misc. n.* 171.

Drawn from a plant which flowered in the Orchideous house of the Royal Gardens, April 1849, derived from the collection of the late Rev. J. Clowes. It is a plant of great beauty, brought from India to Chatsworth by Mr. Gibson, collector for His Grace the Duke of Devonshire, in 1837, and honoured by a specific name after that of His Royal Highness the Duke of Cambridge. Dr. Lindley alludes to its affinity with *D. Paxtoni,* but that is characterized by "petalis serrulatis," and "labello ovato . . . . . margine multifido-fimbriato;" and to *D. chrysanthum,* which is described "labello denticulato retuso obsolete trilobo," and no notice is taken of any villosity. The prolonged spur is remarkable. I cannot therefore but record it as a distinct species.

Descr. An *Epiphyte,* with jointed, pendulous *stems,* nearly as thick as the finger, the joints striated and clothed with sheaths of the leaves, streaked and spotted with red. *Leaves* broad, ovate-lanceolate, sharply acuminate, thick, fleshy, striated, the base very oblique and semicordate. From below the upper leaves the *peduncle* appears, very short, forked into two *pedicels* about two inches long and bearing two pendent, large, handsome *flowers* of a rich golden-colour. *Sepals* and *petals* uniform, much spreading, oblong, acute, faintly striated. *Lip* pendent, cucullate, from a convolute claw suddenly expanding into a broad,

rounded obscurely two-lobed *lamina*, whose upper surface is densely villous or tomentose, and the margin recurved, sinuated, or obscurely and irregularly lobed, but by no means multifid: the throat is distinguished by a large blood-coloured stain; and the claw has an oblong callosity for nearly its whole length. *Column* exceedingly short. *Anther* rough, with small raised points. *W. J. H.*

Cult. This beautiful epiphytal Orchid, being a native of India, requires to be grown in the tropical division of the Orchideous house. With us it is suspended from the roof growing on a sod of solid sphagnum peat, and receiving the same kind of treatment as mentioned at Tab. 4418 and 4432. In order to prolong the duration of this beautiful flower it should be removed to a cooler and dryer house, care being taken not to wet the flowers when syringeing or watering the plants. *J. S.*

Fig. 1. Lip. 2. Pollen-masses. 3. Column and decurrent base forming the spur:—*magnified.*

1.

5.

2.

3.

4.

Fitch del et lith.

R.B. & R. imp.

Tab. 4451.

ZIERIA macrophylla.

Large-leaved Zieria.

Nat. Ord. Diosmeæ.—Tetrandria Monogynia.

Gen. Char. Calyx 4-fidus. *Petala* 4 disco hypogyno inserta. *Stamina* 4, cal. lobis opposita; filamentis glabris basi intus uniglandulosis. *Stylus* 1. *Stigma* 4-lobum. Carpella 4, intus connexa in capitulum 4-lobum, 4-locul., lobis divaricatis. *Semina* in loculis solitariis compresso-ovata.—Frutices *aut* arbores. Folia *opposita, petiolata, trifoliata, summa simplicia.* Pedunculi *axillares sæpius trichotomi.* Flores *parvi, albi. De Cand.*

Zieria *macrophylla*; frutescens, ramulis pubescentibus lævibus, foliolis lanceolatis, paniculis trichotomis folia subæquantibus, petalis obovatis punctatis puberulis.

Zieria macrophylla. "*Bonpl. Nav. p.* 64." *De Cand. Prodr. v.* 1. *p.* 723. *De Less. Ic. v.* 3. *p.* 28. *t.* 48.

Zieria arborescens. *All. Cunn. MSS. in Herb. Hook. Sims, in Bot. Mag. sub Tab.* 1395. *De Cand. Prodr. v.* 1. *p.* 723. *Hook. Journ. Bot. v.* 1. *p.* 256.

This is a much handsomer species than the old *Z. lanceolata*, Br. (*Z. Smithii*, Andr. and Sims, Bot. Mag. t. 1395). Mr. Allan Cunningham says it attains in its native country a height of from fourteen to sixteen feet: and the leaves and the flowers are the largest of the genus. The panicles are very compound, and they are generally equal to, or longer than, the leaves, but sometimes almost as short as the petioles. A still more important specific character is to be found in the smooth stems and branches never warted, which they strikingly are in the *Z. lanceolata*. Bonpland seems to consider Eastern Australia as the native country; but in my own very rich herbarium I find no specimens but from Van Diemen's Land, to which country I believe it to be wholly confined. Mr. Gunn says it is common in shady ravines and mountain creeks, and that it is known in the colony by the name of *Stink-wood*. It flowers in a cool greenhouse in the spring months.

Descr. An erect graceful growing *shrub*, with striated, smooth *branches*, slightly pubescent. *Leaves* opposite, trifoliate;

leaflets lanceolate, more or less acuminate, entire, pellucido-punctate, paler and often slightly pubescent beneath. *Panicles* axillary, copious, generally about as long as the leaves, trichotomous, many-flowered. *Pedicels* and *calyx* stellato-pubescent. *Sepals* four, ovate. *Stamens* four. *Filaments* broad, crested at the top, with a large fleshy *gland* at its base within. *Ovaries* 4, combined. *Style* short, single. *Stigma* four-lobed. *Petals* twice as long as the calyx, punctate, puberulous. *W. J. H.*

Cult. An early and neat-flowering greenhouse plant, growing freely in a mixture of light loam and peat in a well drained pot. In summer, care must be taken that it at no time suffers for want of water, which should be given early in the morning, or in the evening, and it is desirable to have it placed so that the direct rays of the sun do not strike the sides of the pot, for the roots, being fibrous, will suffer if long in contact with the heated material of the pot. The habit of this species is to grow up long and slender, and the branches being opposite, it is not much inclined to form a bushy plant, but which in a degree may be obtained by stopping the leading shoot. It is readily increased by cuttings in the usual way, or by seeds, which ripen with us. *J. S.*

Fig. 1. Pistil. 2. Stamen and gland. 3. Flower with the petals removed. 4. Flower. 5. Petal :—*magnified.*

Tab. 4452.

ALLOPLECTUS CAPITATUS.

Capitate Alloplectus.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4216.)

Alloplectus *capitatus*; elatus robustus, caule simplici obtuse tetragono, foliis amplis ovatis serratis dense velutino-sericeis subtus petiolisque magis minusve sanguineis, pedunculis axillaribus foliorum supremorum brevibus, floribus dense umbellato-capitatis, pedicellis simplicibus umbellatisque, calycis sanguinei sepalis amplis foliaceis cucullatis marginibus reflexis dentatis, corollæ calycem vix duplo superantis sericeæ flavæ tubo supra medium ventricoso.

Alloplectus speciosus. *Hortul. not of Poeppig.*

Presented to the Royal Gardens of Kew by Messrs. Knight and Perry, of the King's Road Nursery, Chelsea, who received it from the continent under the name of *Alloplectus speciosus*;—but it has assuredly nothing to do with the only species described under that name, that of Dr. Poeppig. It is in all probability a native of tropical America, but of what part we have not learned. It is a very beautiful plant, both in the foliage and the flowers:—the former is of a large size, each leaf from ten inches to a foot in length, of the richest possible velvety, or between velvety and silky, hue, the upper side deep green, verging to yellow, the under side purplish, while the stem and petioles, peduncles and calyx are of a rich crimson blood-colour:—the latter remarkable for its great size and the cucullate sepals or segments; and in the centre of this deep red calyx with the very convex segments is an eye of yellow, formed by the comparatively small corolla. It flowers in the stove in March and April, and is really a very striking plant.

Descr. *Stem* in our specimen nearly three feet high, erect, simple, stout, rather succulent than woody, bluntly four-angled, marked with the scars of the fallen leaves, above leafy, and there clothed with short dense blood-coloured velvety down. *Leaves* opposite, large, patent or drooping, ovate, serrated, acute, strongly veined,

especially beneath, everywhere clothed with a beautiful velvety nap or short soft down, glossy and of a rich green above, less glossy and often tinged with purple beneath. *Peduncles* stout, blood-coloured with velvety down. *Peduncles* about two inches long, from the axils of the uppermost leaves, about as long as the petioles, erect, velvety, bearing a dense, globose, bracteated *umbel* of flowers ; pedicels simple or again umbellate, thickened upwards. *Calyx* very large, rich blood-colour, of five broad closely downy segments or sepals, cucullate, the very recurved margins denticulate. *Corolla* small compared with the calyx, yellow, silky with copious erect hairs : the tube ventricose above the middle, the mouth small, of five minute nearly equal segments, margined with red. *Stamens* included. *Ovary* silky, with a large gland on one side. *Style* included. *Stigma* bifid. *W. J. H.*

Cult. The species of this genus inhabit the primeval forests of tropical America, and may be considered as epiphytes, growing on trees or decaying vegetable matter in humid places. They have soft fleshy stems, and are of a trailing subscandent habit, becoming loosely attached by their soft roots, which, in a moist atmosphere, are emitted from below the axils of the leaves. The present species differs in some respects from the others, being of an upright stiff habit, and as yet our plant has shown no symptoms of producing roots from the stem. It has flowered with us in the warm, moist stove, potted in loose peat soil, taking care, during the winter, that it is not over-watered. *J. S.*

Fig. 1. Flower. 2. Corolla. 3. Pistil and gland :—*magnified.*

Fitch, del et lith.

Tab. 4453

AMHERSTIA NOBILIS.

Splendid Amherstia.

Nat. Ord. Leguminosæ. Amherstieæ, *Benth.*—Diadelphia Decandria.

Gen. Char. Sepala 4 basi connata in tubum persistentem apice staminiferum, suffultum bracteis duabus oppositis, maximis, æstivatione valvatis. *Petala* 5 inæqualia: duo inferiora minuta, subulato-hamosa; lateralia cuneiformia, divaricata; supremum maximum patens, obcordatum, unguiculatum. *Stamina* 10 diadelpha; *filamentis* 9 in tubum longum connatis, superne liberis, alternis nanis; decimum liberum, basi pedicello ovarii accretum. *Antheræ* versatiles, omnes polliniferæ, alternæ breviores. *Ovarium* stipitatum, falcatum, 4–6-ovulatum, stipite tubo calycino adnato; *stylus* filiformis; *stigma* convexum, parvum. *Legumen* pedicellatum, planum, oblongum, polyspermum.—Arbor (Martabanica), foliis *amplis, pari-pinnatis,* 6–8-*jugis,* floribus *speciosis, digestis in racemos maximos, axillares, pedunculatos, flaccide pendulos. Wall.*

Amherstia *nobilis.*

Amherstia nobilis. *Wall. Pl. Asiat. Rar. v.* 1. *p.* 1. *t.* 1 *f.* 2. *Walp. Reperl. Bot. v.* 1. *p.* 844.

Ever since the publication of this plant in Dr. Wallich's noble work, the Plantæ Asiaticæ Rariores, the greatest desire has been felt by cultivators in Europe to possess it. Dr. Wallich was not backward in procuring plants for the Calcutta Garden, or in forwarding others to England, for a long time unsuccessfully. His Grace the Duke of Devonshire had the honour of importing the first living plant through the medium of his collector, Mr. Gibson, who was sent to the Birman Empire for it; and this is become a noble and vigorously growing specimen in the princely stoves of Chatsworth:—but Mrs. Lawrence, by her skill in horticulture, and the great care and attention she devoted to a much younger plant in her rich collection, has the still greater honour of bringing it to flower in April, 1849. This plant was presented by Lord Hardinge, then Governor General of the East Indies in 1847, and when only eleven feet high, produced its blossoms in the stove of Ealing Park. The first raceme was fitly sent to Her Most Gracious Majesty, Queen Victoria; the second was liberally placed at our disposal, and an atlas-folio

drawing has been made from it, a size which can alone do justice to such a subject. The pages of this magazine are of course quite inadequate to receive such a figure: and a flower-bud, and two expanded flowers, together with a small portion of a leaf, which was nearly three feet long, are all we shall attempt to portray. These flowers, of the natural size, do so well represent their nature and structure (the minute inferior petals, resembling two small curved scales, being the only part concealed from view), that we shall, rather than enter into a full description (faithfully given in the work above quoted), introduce an extract from Dr. Wallich's history of the discovery of this Prince of Flowering-Trees:—"The first notice I had of the existence of this magnificent tree," says that enthusiastic botanist, "was at Rangoon, in August, 1826, when Mr. Crawford favoured me with some dried unopened flowers, and a leaf of it, with the information that he had gathered it in a garden, belonging to a monastery, around the hill at Kogun, on the Saluen river, in the province of Martaban, where they appeared too beautiful an object to be passed unobserved even by the uninitiated in botany. Handfulls of the flowers were found as offerings in the caves before the images of Buddha."

In March, 1827, Dr. Wallich accompanied the British Envoy to Ava, and in his Official Report of a Journey on the River Saluen, in order to examine the site and capabilities of the Teak forests in that direction, he thus writes: "In about an hour I came to a decayed Kioum (a sort of monastery), close to the large hill of Kogun, distant about two miles from the right bank of the river, and twenty-seven from the town of Martaban. I had been prepared to find a tree growing here, of which an account had before been communicated to me by Mr. Crawfurd, and which I had been fortunate enough to meet with for the first time a week ago at Martaban; nor was I disappointed. There were two individuals of this tree here: the largest, about forty feet high, with a girth, at three feet above the base, of six feet, stood close to the cave: the other was smaller, and overhung an old square reservoir of water, lined with bricks and stones. They were profusely ornamented with pendulous racemes of large vermillion-coloured blossoms, forming superb objects, unequalled in the Flora of the East Indies, and, I presume, not surpassed in magnificence and elegance in any part of the world. The Birman name is *Toha*. Neither the people here nor at Martaban could give me any distinct account of its native place of growth; but there is little doubt that it belongs to the forests of this province. The ground was strewed, even at a distance, with its blossoms, which are carried daily as offerings to the images in the adjoining caves. Round the spot were numerous

individuals of *Jonesia Asoca* in full blossom, inferior in beauty only to those trees; and it is not a little remarkable, that the priests in these parts should have manifested so good a taste as to select two sorts of trees as ornaments to their objects of worship, belonging to a small but well-marked and extremely beautiful group in the extensive family of Leguminous plants."

This tree, which "when in full blossom is the most strikingly superb object that can possibly be imagined," Dr. Wallich had the gratification of naming in compliment to the Right Honourable Countess Amherst and her daughter, Lady Sarah Amherst, the zealous friends and constant promoters of Natural History, especially botany, in India. *W. J. H.*

Cult. It is now about ten years since the first and then only living plant of this splendid flowering tree was brought from India to the garden at Chatsworth. It was believed it would have to attain a considerable size and age before its flowers would be produced; and although every care and attention have been paid to it, yet up to this time it has not flowered, thus confirming the opinion that age was needed. It was therefore with no little surprise that a few months ago we heard it announced that a plant, not more than two years imported, was in flower at Ealing Park. This has been accomplished by growing the plant in a very moist atmosphere, with the temperature ranging between 70° and 80°, and at the same time having the box in which it is planted surrounded by a bed of hot tan, with a temperature of 90°, and the whole plant enclosed by a canvass curtain, which serves as a shade, and assists in keeping the enclosed air in a state of greater moisture. From what we observed of the Ealing Park plant, and our knowledge of the rate of growth of a plant received at this Garden in March of last year, we consider it to be a fast-growing plant, when placed under treatment similar to the above; but care is required to keep it in a healthy and vigorous state. A mixture of good loam and peat soil suits it, and whether the plant is grown in a pot or box, or in a bed of earth, it is necessary to have the means of warming the earth, which is to be obtained by a hot-water tank, or tan, or by the two combined, as at Ealing Park. During the season of growth the highest degree of temperature and moisture must be maintained; but in the winter the thermometer need not be allowed to rise higher than 70°, with a corresponding diminution of moisture. Shading, in bright sunshine, must be carefully attended to, for the foliage being of a thin and dry texture, is very impatient of drought, whether arising from a dry atmosphere, or from a want of supply of sap from the roots; and even with due care the margin and apex of the leaves are very apt to lose vitality, becoming brown,

which gives the plant an unhealthy appearance; but this is a circumstance common to several allied plants that have similar thin dry leaves, and we are informed that this also happens to plants growing in the Calcutta Garden. It is very necessary that the soil should be well drained and not of a retentive nature, for owing to the constant heat and moisture it is apt to become saturated and sodden, and this is more especially to be guarded against as regards soil in a large pot or box plunged in tan. In many respects *Amherstia* is like *Jonesia*, *Brownea*, &c., and like them can be increased by cuttings planted under a bell-glass, and placed in bottom-heat. Dr. Wallich informs us that all the plants sent to Europe have been obtained in the Calcutta Garden by layering. *J. S.*

Fitch del et lith .

Tab. 4454.

CYRTOCHILUM citrinum.

Lemon-coloured Cyrtochilum.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. *Perianthium* explanatum. *Sepala* libera, lateralia unguiculata. *Petala* paulo minora. *Labellum* ecalcaratum indivisum, ungue tuberculato cum basi columnæ continuo. *Columna* brevis, alata. *Anthera* bilocularis. *Pollinia* 2, caudicula filiformi, glandula minuta.—Herbæ *epiphytæ, v. terrestres, pseudo-bulbosæ.* Folia *coriacea.* Scapi *radicales, paniculati.* Flores *speciosi. Lindl.*

Cyrtochilum *citrinum*; pseudo-bulbis brevibus ovatis sulcatis apice diphyllis, foliis lineari-oblongis acutiusculis, scapo radicali foliis multo longioribus, racemo simplici 8–10-floro, bracteis parvis, sepalis ovato-lanceolatis acuminatis labello subduplo brevioribus, petalis ovatis subundulatis sepala subæquantibus, labellum maximum rubrotundo-panduræformi basi attenuato bilamellato, columna utrinque unidentata.

This has a good deal the habit of the *Cyrtochilum filipes*, Lindl. Bot. Reg., 1841, t. 59 (*Oncidium Wrayæ*, Hook. in Bot. Mag. t. 3854), but the scape is less slender, the flowers larger, of a uniform pale yellow or lemon-colour, with a different shaped lip, and a prominent and very conspicuous tooth on each side the short column. It is from Mrs. Lawrence's rich collection, where it flowered in April 1849, and was imported from Central America.

Descr. *Pseudo-bulbs* clustered, short, ovate, somewhat compressed, furrowed, terminated by a pair of *leaves* four or five inches in length, linear-oblong, rather acute, subcoriaceous, nerveless. *Scape* a foot or more long, from the base of the pseudo-bulbs, erect, rather stout, thrice as long as the leaves, jointed and bracteated, bearing a lax raceme of citron-coloured *flowers* at the apex. *Bracteas* at the base of the pedunculiform ovary, small. *Sepals* spreading, uniform, much shorter than the lip, ovato-lanceolate, slightly tinged with green. *Petals* rather shorter than the sepals, ovate, acute, slightly waved. *Lip* very large, subrotund-panduriform, somewhat unguiculate at the base and there bilamellate. *Column* short, with a projecting, linear

tooth on each side. *Anther-case* hemispherical, with a central ridge. *W. J. H.*

Cult. This pretty epiphyte will thrive in the cool division of the Orchideous house, placed in a basket suspended from the roof, or in a shallow pan filled with loose turfy peat mixed with sphagnum moss, shading it from bright sun in summer, and seeing that it does not receive too much water in winter. *J. S.*

Fig. 1. Pollen-masses. 2. Column and lip :—*magnified.*

Fitch .del .et lith..

R.B. & R imp.

Tab. 4455.

MORMODES lentiginosa.

Freckled Mormodes.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4214.)

Mormodes *lentiginosa*; pseudo-bulbis oblongis, foliis lanceolatis striatis, scapo radicali racemoso, floribus remotis pendulis punctis rufo-fuscis irroratis, sepalis arcte reflexis oblongis acutis marginibus revolutis, petalis conformibus, labelli obovati lateribus revolutis, columna oblique torta apice acuminato.

A new and very remarkable species of *Mormodes*, quite unlike any hitherto figured or described, and equally with the subject of our last plate (*Cyrtochilum citrinum*) from the collection of Mrs. Lawrence, and obtained from the same country. It flowers in April.

Descr. The young *pseudo-bulbs* are almost globose, leafy: the old ones are oblong, terete, and partially sheathed with the withered membranous bases of the old leaves. *Leaves*, in the plant before us, a span long, lanceolate, membranaceous, striated. *Scape* from the base of a pseudo-bulb, a foot or a foot and a half high, racemose, flexuose where the remote drooping flowers are inserted. *Bracteas* small, membranaceous, acuminated. The general colour of the flower is pale reddish-brown, everywhere sprinkled with dark-coloured dots. *Sepals* and *petals* oblong, acute, with margins singularly recurved, the former (*sepals*) refracted, the petals having an opposite direction, the same as that of the column and lip. *Lip* rather large, fleshy, obovate, entire, the sides entirely curved back, revolute, almost like the flaps of a saddle. *Column* shorter than the lip, semiterete, curved, and having a singularly oblique twist, acuminated. *Anthers* taking the same shape as the apex of the column, and hence much acuminated too: the colour is a deeper red than the rest of the flower. *W. J. H.*

Cult. This Orchid may be potted in loose turfy peat. During

winter it remains in a state of rest, and must then be kept in a moderately warm and rather dry stove, giving it little or no water. In the spring, when it begins to show symptoms of growth, it should receive the usual temperature and moisture of the Orchideous house, placing it near the glass on the front shelves, watering it carefully and shading it from the mid-day sun. *J. S.*

Fig. 1. Column and lip :—*magnified.*

Fitch, del. et lith.

R.B. & F. imp

4456.

EPIMEDIUM PINNATUM.

Pinnate-leaved Epimedium.

Nat. Ord. Berberideæ.—Tetrandria Monogynia.

Gen. Char. *Sepala* extus basi bibracteolata. *Petala* 4 intus appendice discolore aucta. *Capsula* siliculiformis, polysperma. *Semina* oblique transversim sita, unilateralia.—Herbæ *perennes*, foliis *radicalibus petiolatis*, foliolis *serrato-aristatis*. *De Cand.*

Epimedium *pinnatum*; hirsutum, foliis ternatis vel biternatis, foliolis longe petiolulatis adultis glabris cordato-ovatis ciliato-serratis, racemis radicalibus multifloris, petalis rotundatis, nectariis cucullatis calcaratis, margine erosis.

Epimedium pinnatum. *Fisch. in De Cand. Syst. Veget. v.* 2. *p.* 29. *Prodr. v.* 1. *p.* 110. *Repert. Spreng. Syst. Veget. v.* 1. *p.* 441. *Ledeb. Fl. Ross. v.* 1. *p.* 81.

A most lovely little hardy plant, with flowers in form and size and colour resembling some *Helianthemum*, but, when they are inspected, the curious structure of an *Epimedium* may be detected. We owe our plants in the Royal Gardens, where they flowered in March, to Mr. Shepherd of the Liverpool Botanic Garden. It is a native of shady mountain woods in Gilan, a province of Persia, where it was first detected by Hablitz. It has since been found in the Caucasian region, on Mount Talusch, between Lenkoran and Suwant, at an elevation of 2,400 feet above the level of the sea.

Descr. From a short *rhizoma*, partially underground, and more or less clothed with the large stipular scales of the base of the leaf-stalk, arise several *leaves* and *flower-scapes*, both one and the other clothed with patent hairs in the young state. *Leaves* a span or more long when fully formed, sometimes ternate, more generally twice ternate, or in other words pinnate with five leaflets, the two pairs very remote: the *leaflets* are ovato-cordate, with a deep narrow sinus, acute, ciliato-serrate, glabrous, except on the nerves beneath. *Scapes* about as long as the fully developed leaves, but bearing the raceme of flowers while the leaves are still young. *Pedicels* short, with minute bracteas. *Calyx* with two, small, deciduous *bracts*. *Sepals* four, ovate,

pale green. *Petals* four, subrotund, yellow, veined. *Nectaries* cucullate, yellow, the edge toothed; terminating behind in an orange-coloured blunt *spur*. *Stamens* erect. *Anthers* as long as the filaments: valves as long as the anthers. *Ovary* oblong. *Style* shorter than the ovary: *stigma* depressed. *W. J. H.*

Cult. Like the other well-known species of *Epimedium*, this is a hardy herbaceous plant, and may be cultivated in the flower-border, or kept in a pot along with the collection of the smaller kinds of herbaceous plants, generally termed Alpines. It is increased by division of the root. *J. S.*

Fig. 1. Nectary. 2. Stamen. 3. Pistil:—*magnified.*

2.

3

Fitch del. et lith.

R.B. & R. imp.

Tab. 4457.

RHODODENDRON FORMOSUM.

Beautiful Rhododendron.

Nat. Ord. Ericaceæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *formosum*; fruticosa gracilis, foliis oblongo-obovatis in petiolum brevem attenuatis vix coriaceis junioribus præcipue villosis subtus pallidis, pedicellis unifloris brevibus basi bracteatis, calyce brevissimo obscure 5-lobo, corollæ (albæ roseo-tinctæ) tubo infundibuliformi-campanulato 5-angulato, limbo amplissimo 5-lobo lobis rotundatis undulatis obtusissimis, filamentis (10) glanduloso-pilosis, ovario minute squamuloso.

Rhododendron formosum. *Wall. Plant. Asiat. Rar. v.* 3. *p.* 3. *t.* 207. *De Cand. Prodr. v.* 7. *p.* 721.

Rhododendron Gibsoni. *Hort.*

Our drawing of this truly beautiful and rare Rhododendron was made from a plant which flowered in a greenhouse at Syon Garden, Her Grace the Duchess of Northumberland's, April 1849: at the same time a plant which had been presented to the Royal Gardens by Mr. Low of Clapton, blossomed there also. In both cases the plants were sent as the *Rhododendron Gibsoni* of Mr. Paxton. Nor is there any reason to doubt the correctness of this appellation. Be that as it may, the species has been made known to the botanical world by an excellent figure in the Plantæ Asiaticæ Rariores of Dr. Wallich, ever since the year 1832. It was discovered by the late Mr. Smith so early as 1815, on the mountains bordering on Silhet in Eastern Himalaya. The flowers are very large and highly fragrant, and the habit of the plant is that of *Rhododendron* (or *Azalea* of most authors) *ledifolium*: but the leaves and the calyx are totally different. When brought by cultivation to the same degree of perfection as the plant just mentioned, it will be one of the most valuable shrubs for early forcing that can be conceived. Mr. Gibson, collector for His Grace the Duke of Devonshire, brought it from India some years ago, and it is probably one of the several species

named but not described by Mr. Griffiths and detected by him in Eastern Himalaya. The flowers are a delicate white, tinged with yellow and rose, and have five external stripes of red.

Descr. Our plant forms a small slender shrub, with deep-reddish-brown branches, the younger ones downy. *Leaves* oblongo-obovate, obtuse, often with a small mucro, pale and glaucous beneath, tapering into a short foot-stalk, the younger ones hairy and of a very pale green. *Peduncles* short, in pairs, from the apex of the branches, soon over-topped with young shoots and then appearing lateral, bracteated at the base, *bracteas* ovate or obovate, brown. *Calyx* very small, obscurely five-lobed, often with long ciliæ. *Stamens* ten : *filaments* pilose. *Anthers* small, purple. *Ovary* ovate, five-lobed, five-celled, dotted with copious minute scales. *Style* scaly or hairy. *Stigma* capitate, obscurely five-lobed. *W. J. H.*

Cult. This pretty species of *Rhododendron* is not sufficiently hardy to bear our winters without protection. It will be best treated as a greenhouse plant, placing it along with Chinese *Azaleas*, &c., potting it in light peat mixed with a small portion of turfy loam, care being taken to have the pot well drained. The plant is increased by seed, which should be sown in pans filled with turfy peat to within an inch of the top, the remainder being made up of finely sifted peat mixed with a fourth part of sharp white sand. As the seeds are very small, they require no covering, a gentle pressure on the surface of the mould being quite sufficient. The pans should be placed in a warm or moist frame in a shady corner of the stove, and germination will be hastened by placing a bell-glass over the pan, having a less diameter than the pan. To avoid the risk of disturbing the seeds in watering, it is advisable not to take off the bell-glass; but by allowing the water to fall between the margin of the pan and glass, the mould will gradually absorb the water which will become diffused throughout the mass, and secure a uniform degree of moisture for the seeds. Shading during the day must be attended to both previous to and after germination, gradually admitting air and light as the young plants obtain strength. No doubt this species will readily hybridize with its allies and produce varieties, which can be maintained and increased by graftings on some of the more common species of the genus. *J. S.*

Fig. 1 and 3. Varieties of the calyx, ovary, and style. 2. Stamen :—*magnified.*

Fitch, del et lith.

R.B.& R. imp.

Tab. 4458.

DIELYTRA spectabilis.

Moutan Dielytra.

Nat. Ord. Fumariaceæ.—Diadelphia Hexandria.

Gen. Char. Petala 4, 2 exteriora basi æqualiter calcarata aut gibbosa. *Siliqua* bivalvis polysperma.—Herbæ *perennes*. Flores *racemosi, albi aut purpurascentes. DC.*

Dielytra *spectabilis*; caulescens, foliis subbipinnatis, pinnis petiolatis plerumque ternatis segmentis late ovato-cuneatis incisis, racemis elongatis bracteis subulatis deciduis, petalis ext. basi gibboso-rotundatis, int. oblongis carinatis supra medium valde constrictis, filamentis diadelphis, ultra medium geniculatis liberis.

Dielytra spectabilis. *De Cand. Syst. Veget. v.* 2. *p.* 110. *Prodr. v.* 1. *p.* 126. *Fortune, in Journ. Hort. Soc. Lond. v.* 2. *p.* 178. *t.* 3.

Eucapnos spectabilis. *Sieb. et Zucc. Abhandl. der Munchen. Akid. (Physick. Math. Classe) v.* 3. *p.* 721. *t.* 1. *f.* 2. *ex Walp. Repert. v.* 5. *p.* 23.

Corydalis spectabilis. *Pers. Syn. v.* 2. *p.* 260.

Fumaria spectabilis. *Linn. Amœn. Acad. v.* 7. *p.* 437. *t.* 7.

Of this truly fine and hardy herbaceous plant, there seems no reason whatever for constituting a new genus, as Professors Martius and Zuccarini have done. Both in habit and structural character it is entirely a *Dielytra*, DC. The flowers are the largest of the genus, and the leaves and leaflets the broadest, and so much resemble those of the *Pæonia Moutan* that, as Mr. Fortune assures us, the Chinese give the plant the name of the "*Red-and-white Moutan-flower.*" We learn from the same intelligent traveller, that it is one of the plants of which the Chinese Mandarins are so fond, and that they cultivate with so much pride in all their gardens. He first saw it in the artificial rocks in the Grotto-garden, Island of Chusan, growing along with the equally beautiful *Weigelia rosea*. It appears to have been known only in northern China or the borders of Tartary and China, and not to be a denizen of any part of the Russian Empire; for it is not included in Ledebour's Flora Rossica. Nor, indeed, have we any clear account of its being seen otherwise than in cultivation. Linnæus, who first published it, does, it is true, give in the Species Plantarum, "Siberia (*Demidoff*)" as the habitat: but the late possessor of the Linnæan Herbarium does not seem satisfied on that point, for he says in Rees' Cyclop. that "it is a

native of Siberia or Tartary as far as we can discover.* It is cultivated by the Chinese and sometimes seen among their drawings of ornamental plants, being extremely handsome. The original specimen is in the Linnæan Herbarium, the only one we have ever met with in any collection." Gmelin includes it in his 'Flora Sibirica,' but expressly says, "stupendæ pulchritudinis planta, quæ e Sinis a chirurgo Henke adportata fuit."

Descr. Habit of *Dielytra formosa* (Bot. Mag. t. 1335) except that it is caulescent: a foot or a foot and a half high. *Leaves* pinnate, with three to five petiolate, pinnated *pinnules*, which are ternate or ternately and deeply cut, the segments broad, ovato-cuneate, incised. *Stem*, petioles, and peduncles red. *Raceme* long. *Pedicels* slender, with a subulato-deciduous *bractea*. *Flowers* large, drooping, deep rose-red, inner petals nearly white. *Calyx* of two small, narrow-ovate, concave, coloured *scales*. Outer *petals* very large, cucullate, gibbous rather than spurred at the base: the apex attenuated, reflexed, spathulate. Inner *petals* oblong, carinate at the back, remarkably constricted above the middle; the upper portion with a broad wing at the back, the apices cohering. *Stamens* united in two bundles of three each, geniculated above the middle, and the filaments are thence free. *Ovary* narrow, cylindrical: *style* short: *stigma* two-lipped. *W. J. H.*

Cult. This handsome flowering herbaceous plant, has a fascicle of thick fleshy roots that lie dormant during winter, and push into growth early in the spring. We have not had it long enough under cultivation to enable us to say whether it will prove hardy in our climate; but as it is from the north of China we anticipate it will, especially if covered over with a layer of old tan, or some such loose material during our severe frosts. Its early habit may probably render it liable to be hurt by late spring frosts, but as it makes a pretty appearance in a pot, it will prove a desirable plant for the greenhouse. It thrives in any good garden-soil, and when it has done flowering it should be placed out of doors. After the decay of the flowering stems it may be kept in a frame during winter, giving it only water sufficient to keep the mould moderately moist. It is propagated by division of the root or by cuttings. *J. S.*

* Alexander de Karamyschew, who appears to be the original authority for our knowledge of this fine plant in his 'Dissertatio' entitled 'Necessitas Historiæ Naturalis Rossiæ,' (Amœn. Acad. v. 7. p. 438) says, after alluding to Botanic gardens, "Memini de cætero, me vidisse domi varias plantas omnium pulcherrimas, utpote *Hypecoum erectum*, *Fumariam spectabilem* aliasque quæ dignissima essent, quæ insererentur hortis magnatum summorum, ob illarum pulchritudinem."

Fig. 1, 2, and 3. The different parts of the flower separated:—*magnified*.

2

3.

4.

Tab. 4459.

LACEPEDEA insignis.

Fragrant Lacepedea.

Nat. Ord. Hippocrataceæ.—Pentandria Trigynia.

Gen. Char. Calyx 5-partitus (potius 5-sepalus) inæqualis. *Petala* 5 brevissime unguiculata (sessilia). *Stamina* 5, filamentis liberis, antheris bilocularibus longitudinaliter dehiscentibus. *Ovarium* 3-loculare, loculis 8-ovulatis. *Stylus* 3-sulcatus, demum tripartibilis. *Bacca* stylis tricuspidata 6–9-sperma.—Arbor foliis *serrulatis*, paniculis *terminalibus*, floribus *albis odoris*. *DC.*

Lacepedea *insignis.*

Lacepedea insignis. *H.B.K. Nov. Gen. Am. v.* 5. *p.* 142. *t.* 444. *De Cand. Prodr. v.* 1. *p.* 572.

Triceraia tinifolia. *Willd. Herb.—Roem. et Sch. Syst. Veget. v.* 4. *p.* 803.

Triceros Xalapensis. *Spreng. Syst. Veget. v.* 1. *p.* 947.

A really handsome shrub, attaining a height of fourteen to eighteen feet, with ample ever-green foliage and panicles of white, deliciously scented flowers; each blossom the size of, and in shape not much unlike that of the Barberry. It is a native of Mexico, requires the heat of a stove when the flowers come to perfection in May. Introduced to our gardens through the medium of Mr. Henderson of Pine Apple Place, who kindly presented it to the Royal Gardens. Messrs. Humboldt and Bonpland named this in honour of the distinguished naturalist Count de Lacepede. The species is a solitary one of the genus.

Descr. A small *tree*, which, with us, has attained the height of ten feet, much branched. *Leaves* opposite, on long petioles, ovate or oblongo-ovate, subcoriaceous, penninerved and reticulated, obscurely serrated, dark green above and glossy, paler beneath, and with the nerves prominent. *Petioles* terete, one, two, or three inches long. *Panicles* terminal. *Flowers* clustered, white, powerfully fragrant, ovato-globose. *Pedicels* slender, without bracteæ. *Calyx* of five, imbricated, oval, ciliated, white *sepals*. *Petals* not much longer than the sepals, white, obovato-oblong, erect, concave, obscurely crenate at the margin. *Stamens* erect, longer than the sepals. *Filaments* rather thick, subulate,

white. *Anthers* large, yellow, exserted just beyond the corolla. There is a large fleshy deeply-lobed and crenate *disk* surrounding the base of the ovary. *Ovary* ovate, three-lobed, hairy, or rather setose, tapering upwards into three eventually separated *styles*. *Stigmas* dilated. *W. J. H.*

Cult. This is a shrub or small tree of free growth, requiring the temperature of the stove, not particular as to soil, but demanding the usual precautions as to watering and drainage. It is readily increased by cuttings, placed in bottom-heat under a bell-glass. *J. S.*

Fig. 1. Petal. 2. Flower. 3. Pistil and hypogynous disk. 4. Section of ovary. 5. Flower from which the calyx and petals are removed :—*magnified*.

Fitch del et lith.

R.B & R.imp

Tab. 4460.

NEMATANTHUS ionema.

Dark blood-coloured Ionema.

Nat. Ord. Gesneriaceæ.—Didynamia Gymnospermia.

Gen. Char. Calyx liber obliquus ultra medium 5-fidus seu 5-partitus, lobis lanceolato-linearibus subæqualibus, summo paululum minore. *Corolla* infundibuliformi-campanulato-obliqua basi postice gibba, fauce patula, limbo æqualiter 5-lobo. *Stamina* 4 didynama cum quinto rudimentario aut nullo. *Antheræ* cohærentes. *Annulus* hypogynus et glandula postica. *Capsula* pyramidalis coriacea 1-locularis 2-valvis, placentis 2 parietalibus bilamellatis. *Semina* innumerosa oblonga.—Frutices *Brasilienses simplices aut pauce ramosi supra arbores scandentes sæpe radicantes, epidermide nitida cinereo-testacea.* Folia *opposita* (*altero sæpe minore*) *petiolata crassiuscula oblonga aut ovali-lanceolata utrinque acuminata subintegerrima, juniora ciliata.* Gemmata *nuda foliis complicatis.* Pedicelli *axillares* 1-*flores solitarii ebracteati filiformes penduli.* Corollæ *puniceæ amplæ. DC.*

Nematanthus *ionema*; foliis lato-lanceolatis utrinque acuminatis, calycibus violascentibus incano-hirsutis, pedunculis 6- ad 12-uncialibus violaceo-alboque villosis. *Mart.*

Nematanthus ionema. *Mart. Nov. Gen. Bras. v.* 3. *p.* 47.

Nematanthus corticola. *Schrad. in Gött. Gel. Anz. v.* 1. *p.* 719. *Max. Prinz. von New. Reise nach Bras. v.* 2. *p.* 208. *et p.* 343.

Nematanthus Morrelliana. *Hortul.*

This is the most striking of all the species of *Nematanthus*, known in cultivation, remarkable for the great length of the flower-stalks, the deep blood-colour of the corollas, the rich purple of the calyx-tube, and the pubescence on these latter. De Candolle, as observed under our Tab. 4018, *N. longipes*, seems inclined to refer it to that species: but we agree with Dr. von Martius that it is "distinctissima." According to this last-mentioned author, it grows in primeval woods of Brazil, between Ilheos and the town of San Pedro de Alcantara:—there flowering in September, with us in the spring months, requiring a moist stove for its successful cultivation. We owe the possession of it at Kew, to Mr. Henderson of Pine Apple Place, who sent it under the unpublished name of *N. Morrelliana*.

Descr. A succulent scandent *shrub*, with terete *branches*

sending out roots from near the insertion of the leaves. *Leaves* opposite, thick, fleshy, broadly lanceolate or slightly obovate, obscurely serrated, very dark green, acuminated, at the base attenuated into a thick footstalk about an inch long. *Peduncles* solitary or two together, from the axils of the leaves, slender, very long (six to twelve inches) and pendent, dark purple-red, villous, bearing a single large obliquely pendent flower. *Calyx* large, woolly rather than villous: *tube* turbinate, very dark purple: *limb* of five lanceolate, serrated, almost leafy, spreading segments. *Corolla* in shape resembling that of *N. longipes* (Tab. 4018) or of *N. chloronema* (Tab. 4080), but of a rich deep blood-colour and clothed with hoary purplish pubescence. *Stamens* and *style* as long as the tube. *Ovary* hairy with a large gland on one side. *W. J. H.*

Cult. A native of the forests of Brazil, and agreeing in every respect as regards habit with what is said of *Alloplectus* at Tab. 4452. It may be either grown in a pot in turfy peat soil, or in a basket suspended from the roof of the house, in the way that many Orchids are grown. *J. S.*

Fig. 1. Pistil and hypogynous gland.

1.

2

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4.

Fitch. del et lith.

R.B. & R. imp.

Tab. 4461.

GAULTHERIA bracteata.

Bracteated Gaultheria.

Nat. Ord. Ericaceæ.—Decandria Monogynia.

Gen. Char. *Calyx* 5-lobus demum amplians plus minus baccatus et capsulam ambiens aut fovens. *Corolla* ovata ore sæpe contracta 5-dentata. *Stamina* 10 inclusa, filamentis sæpe villosis, antheris 4-aristatis nempe apice bifidis, loculis biaristatis rarissime muticis. *Stylus* filiformis. *Stigma* obtusum. *Squamæ* hypogynæ 10 distinctæ aut concretæ. *Capsula* depresso-globosa, 5-locularis, 5-sulcata, 5-valvis, valvis septiferis loculicido-dehiscentibus. *Placenta* axi adnata. *Semina* innumerosa parva, testa subreticulata.—Frutices *aut rarius arbusculæ ex America rarius ex India orti.* Folia *alterna sempervirentia, dentata aut integerrima.* Pedicelli *nunc axillares* 1-*flori nunc in racemum terminalem dispositi, bibracteolati.* Corollæ *albæ roseæ aut coccineæ. DC.*

Gaultheria *bracteata*; prostrata, ramis teretibus hispidis, foliis breviter petiolatis cordato-ovatis acutis ciliato-serratis acutis supra lævibus subtus reticulatis sparse piloso-hispidis, racemis terminalibus et axillaribus glanduloso-pilosis, bracteis ovatis coloratis flores æquantibus, calyce laxo lobis triangulari-acuminatis pilosis, corollis conico-ovatis, limbi lobis patentibus.

Gaultheria bracteata. *Don, Gard. Dict. v.* 3. *p.* 840. *De Cand. Prodr. v.* 7. *p.* 595.

Andromeda bracteata. *Cav. Ic. v.* 6. *p.* 42. *t.* 562. *f.* 1.

Gaultheria odorata. *H.B.K. Nov. Gen. v.*3. *p.*285. *De Cand. Prodr. v.*7. *p.*595.

Gaultheria erecta. *Vent. Hort. Cels. t.* 5. *De Cand. Prodr. v.* 7. *p.* 596.

Gaultheria cordifolia. *H.B.K. Nov. Gen. Am. v.* 3. *p.* 285. *t.* 261.

Gaultheria rigida. *H.B.K. Nov. Gen. Am. v.* 3. *p.* 287. *t.* 262.

Among the most interesting of mountain plants in the tropics and in the southern hemisphere, especially of the New World, are the various species of the present genus *Gaultheria.* Forty-three are enumerated by De Candolle; but many of these are assuredly varieties; and it would require much time and a rich herbarium to elucidate the history of the genus. The present one, from the Andes of Columbia, sent to the Royal Gardens and to Syon by Mr. Purdie, is the *Andromeda bracteata* figured and described by Cavanilles; and we are glad to give a representation from the living plant of what we believe to

be identical with the original plant. In addition to the synonymes above quoted we were almost disposed to add the *G. Pichinchensis*, Bentham, and *G. rufescens*, De Cand.; but the clothing of the young stems is different, though variable. The greater or lesser breadth of the leaves, and the permanent or fugacious hairs of the different parts of the plant, are exceedingly uncertain characters.

Descr. A low bushy, rigid, handsome, greenhouse *shrub* with prostrate *branches* as seen in the plants at Kew and at Syon Gardens (where our drawing was made), these branches more or less hispid, the setæ generally mixed with glandular hairs in the younger portions of the plant. *Leaves* alternate, ovate or oblong or cordate, with a glandular mucro at the point, minutely serrated, penniveined and reticulated (more conspicuously beneath), generally glabrous above, the serratures ciliated or tipped with hairs which are often deciduous: beneath glabrous or hairy, with setæ about the base and mid-rib. *Racemes* axillary and terminal, simple, solitary: the *flowers* secund, rose-colour, as are the calyx and large bracteas: all these, as well as the short bibracteolated pedicels, are more or less hairy and more or less glandular. *Calyx* lax, cut deeply into five rather patent, acuminated, triangular lobes. *Corolla* thrice as long as the calyx: conical-ovate, with five rather small ovate spreading segments of the limb. *Stamens*: *filaments* subulate, hairy. *Anther-cells* with two short horns. *Ovary* depressed, downy, five-lobed. *Style* columnar: *stigma* obtuse. *W. J. H.*

Cult. From the elevated regions of New Grenada, and as it grows under the same influences as regards climate, and partakes of the nature of *Bejaria coarctata* (Tab. 4433), the remarks there given are applicable to this species. It should be grown in light peat soil, and kept in a cool airy pit or frame during winter, and in summer should not be exposed too freely to the sun in hot weather. As it is also found in the more elevated region of Quito, it may probably prove more hardy than we at present anticipate. *J. S.*

Fig. 1. Flower, bractea, and bracteoles. 2. Variety of the same. 3. Stamen. 4. Pistil:—*magnified*.

Fitch del et lith

Tab. 4462

MITRARIA coccinea.

Scarlet Mitraria.

Nat. Ord. Gesneriaceæ—Didynamia Angiospermia.

Gen. Char. Calyx inferus bractea biloba mitræformi calyculatus, 5-partitus (inæqualis), lobis pallidis lanceolatis fere pergamaceis. *Corolla* tubulosa subventricosa, limbo bilabiato, lobo superiore bifido, infero 3-fido. *Stamina* 4, didynama exserta, antheris liberis; quinti postice rudimentum elongato-filiforme. *Ovarium* disco hypogyno impositum. *Stylus* subulatus. *Stigma* crassiusculum. *Bacca* 1-locularis. *Semina* numerosa oblonga.—Frutex *Chiloensis*. Folia *opposita*. Pedicelli *solitarii v.* 2–3 *axillares nutantes* 1-*flori*. *Cor. coccinea.*

Mitraria *coccinea.*

Mitraria coccinea. *Cav. Ic. v.* 6. *p.* 67. *t.* 579. *De Cand. Prodr. v.* 7. *p.* 537. *Spreng. Syst. Veget. v.* 2. *p.* 845.

Among the most attractive features at the June Exhibition (1849) of the Chiswick Horticultural Society, was this rare and lovely plant, communicated by Messrs. Veitch of Exeter: being one of the many choice plants sent by Mr. William Lobb from Chiloe, the only known station for it. It is a plant that has long been among the desiderata of the Horticulturist. It is a greenhouse plant, and may be found capable of bearing the open air, were it not for the droughts of our country, so different from the perennial fogs of Chiloe.

Descr. A low and somewhat succulent *shrub*, with obscurely tetragonous *branches*. *Leaves* rather small, but approximate, of a singularly delicate green colour, opposite, rarely ternate, on short *petioles*, ovate, acute, coarsely crenato-serrate, nearly glabrous, paler and somewhat glaucous beneath. *Peduncles* much longer than the leaves, generally solitary from the axils, drooping, tubercled and slightly thickened towards the calyx, single-flowered. *Bracteæ* large, two-lobed, nerved, broadly ovate, downy, closely embracing one side of the calyx. *Calyx* of five, unequal, lanceolate *sepals* or *lobes*, pale-coloured, downy towards the point and edges, one large and four smaller. *Corolla* bright scarlet: *tube* ventricose, curved, constricted at the base, the

mouth a little contracted: the limb obscurely two-lipped, with five, subequal, spreading, obtuse segments. *Stamen* and *style* slightly exserted. *Barren filament* subulate. *Ovary* ovate, placed on a large hypogynous fleshy disk. *Cells* with two parietal receptacles. *Stigma* obtuse. *W. J. H.*

Cult. This pretty and interesting plant belongs to the same group of *Gesneriaceæ* as *Nematanthus* (Tab. 4460) and *Allo-plectus* (Tab. 4452), partaking of the trailing subscandent habit of these and other allied tropical genera; but *Mitraria*, being a native of the group of islands of which Chiloe is the chief, it may therefore be viewed as a tolerably hardy plant, especially in situations near the sea on our south and west coasts, the climate of Chiloe being characterized as very cold, with great humidity, for a great part of the year, but with little or no frost. We learn from Mr. Veitch (who is at present the sole possessor of this species) that four plants stood the open air of last winter in his Nursery at Exeter; but in situations not so favoured as the mild climate of Devonshire, it will be safest to protect it during winter, either in the greenhouse or in a cold pit or frame. As it is of a neat habit and a free flowerer, and strikes readily from cuttings treated in the usual way, we anticipate that it will become a favourite plant for the greenhouse. *J. S.*

Fig. 1. Stamens. 2. Bractea, calyx, and pistil. 3. Calyx. 4. Ovary and hypogynous disk. 5. Transverse section of the ovary:—*magnified.*

1.

Tab. 4463

SIDA (Abutilon) venosa.

Veiny-petaled Sida.

Nat. Ord. Malvaceæ.—Monadelphia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4227.)

Sida (Abutilon) *venosa*; subarborea, ramis herbaceis glabris, foliis longe petiolatis cordatis 7-palmatis profunde 7-lobatis, lobis lanceolatis acuminatis grosse inciso-serratis, stipulis subulato-lanceolatis, pedunculis axillaribus solitariis unifloris longitudine foliorum sub apicem articulatis, calycis ampli campanulati tubo globoso 15-lamellato limbo 5-partito laciniis ovato-lanceolatis acuminatis, petalis latissime spathulatis concavis conniventibus venosis.

Abutilon venosum, *Hortal.*

A large green-house shrub, or it may almost be called a small tree, the name of which we have only seen in print in a Catalogue of the Plants of the Botanic Garden of Zurich, marked "*Abutilon venosum*, Hort. Zuric." It appears to have come to England by way of Belgium, and we have no information of its native country; but if we judge from its affinity with *Sida Bedfordiana* (Bot. Mag. t. 3892) and *S. picta* (t. 3840), we should infer that south Brazil is its native country. Of the two species just mentioned, it is most nearly allied to *S. picta*, on account of its palmated leaves; but the segments of the leaves, and the flowers, especially the structure of the calyx, are very different. It blooms in the spring and summer, and our earliest knowledge of it was from a fine specimen brought to us by Robert Barclay, Esq., who had flowered it at Nott's Green, Leytonstone. The blossoms are large and exceedingly handsome, from the rich colour and fine purple veining of their petals.

Descr. A small *tree*, with rather straggling *branches*, the young ones herbaceous, quite glabrous. *Leaves* frequently a span long, broadly cordate, palmately and deeply seven-lobed, the lobes lanceolate, much acuminated, and coarsely and incisely serrated: the young ones only with a few stellated hairs, chiefly

on the nerves on the underside. *Stipules* subulato-lanceolate, entire. *Peduncle* axillary, solitary, about as long as the leaf, single-flowered, articulated and generally geniculated an inch or more below the calyx. *Flower* very large, drooping. *Calyx* large, bell-shaped, slightly downy, with rufous, stellated hairs; the *tube* inflated, subglobose, very obtuse at the base, marked longitudinally with fifteen elevated striæ or lamellæ, which become obsolete in the five large ovato-lanceolate segments of the limb: these segments are clothed with whitish down within. *Corolla* twice as long as the calyx. *Petals* erecto-connivent, obovato-spathulate, very concave, golden orange colour, richly veined and reticulated with brown. *Stamens* numerous. *Style* as long as the column of stamens, with nine branches at the summit. *W. J. H.*

Cult. A slender, upright, soft-wooded, shrubby plant of rapid growth, soon becoming tall and naked below, and therefore better adapted for planting out in a greenhouse conservatory, than for cultivating in a pot. In either case it is desirable to shorten the leading shoots, so as to induce it to branch. It will thrive well in any good garden-loam, mixed with a little leaf-mould or sandy peat-soil. During summer it requires to be freely supplied with water, and may at that season be fully exposed to the open air. It is readily increased by cuttings, treated in the usual way. *J. S.*

Fig. 1. Pistil:—*magnified.*

2.

Tab. 4464.

PENTSTEMON CYANANTHUS.

Azure-flowered Penstemon.

Nat. Ord. Scrophularineæ—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4319.)

Pentstemon *cyananthus*; elatus glaucescenti-viridis, foliis integerrimis inferioribus oblongo-spathulatis petiolatis acuminatis, caulinis sessilibus cordato-ovatis tenui-acuminatis floralibus inferioribus late cordatis acuminatissimis, pedunculis axillaribus pseudo-verticillatis multifloris spicam foliosam interruptam spectabilem formantibus, sepalis angustis lanceolato-subulatis, corollæ pulcherrimæ azureæ (tubo purpureo) superne ampliato, limbi bilabiati lobis subæqualibus, antheris filamentòque sterili hirsutis.

A more beautiful *Pentstemon* even than that we have figured at Tab. 4319, having equally handsome flowers, and these much more numerous and more compact, forming a spike (as in a specimen now before us) more than a foot long, and with much finer foliage. It is, too, an inhabitant of the same country, the upper valleys of the Platte River in the Rocky Mountains, where seeds were collected by Mr. Burke. These seeds were reared by Messrs. Lucombe, Pince, and Co., in whose Exeter Nursery the plants flowered beautifully, in the open air, in May 1849. The species is doubtless quite hardy, and a great acquisition to our flower-borders. A bed filled with this species would have a splendid effect. It may rank near *P. acuminatum*, Dougl. (in Bot. Reg. t. 1285), but is quite different, and infinitely more beautiful.

Descr. Perennial. *Stems* herbaceous, erect, terete, simple in our specimen. *Leaves* all entire, inclining to glaucous-green. *Root-leaves* petiolate, spathulate, acuminate. *Stem-leaves* the broadest and largest of the genus, cordato-ovate, or cordate, sessile, acuminate: those of the inferior pseudo-whorls broadly cordate and very acuminate: uppermost ones of all reduced to subulate bracteas. *Peduncles* opposite, axillary in all the upper floral and bracteal leaves, bearing cymes of many flowers, which form pseudo-whorls around the stem. *Calyx* of five subulate

sepals. *Corolla* rather large, the tube ventricose upwards, purple: the *limb* two-lipped, bright azure blue; the segments obtuse, nearly equal, those of the upper lip being rather the smallest. *Stamens* and *pistil* included. *Filaments* much curved. *Anthers* and *sterile stamen* hairy. *W. J. H.*

Cult. This fine species of *Pentstemon* is, like the rest of the genus, a hardy perennial plant, and will, we think, prove an ornamental plant for the flower-border. Although the several species of this genus are considered herbaceous perennials, some even assuming an evergreen suffruticose habit, yet the present species belongs to a section of which, after flowering, the plants often become weakly, and do not flower so fine the following year. It is, therefore, desirable to have a succession of young plants, which, in those species which do not readily produce seeds, may be obtained by cuttings, placed under a hand-glass: this operation should be done as early in the summer as cuttings can be got, so as to have the young plants sufficiently strong by the autumn. On account of their evergreen suffruticose habit, it is desirable to shelter them in a frame during winter; but taking due care that they do not suffer through damp. *J. S.*

Fig. 1. Root-leaf:—*natural size.* 2. Stamens:—*magnified.*

R. B. & F. imp

Tab. 4465.

SAUROMATIUM GUTTATUM

Spotted Sauromatium.

Nat. Ord. Aroideæ.—Monœcia Polyandria.

Gen. Char. *Spatha* basi tubulosa, limbo plano patente. *Spadix* inferne interrupte androgynus, genitalibus rudimentariis infra stamina sparsis apice subclavato nudus. *Antheræ* distinctæ, loculis oppositis, rimula brevi subobliqua dehiscentibus. *Ovaria* plurima, libera, unilocularia. *Ovula* 2, basilaria, e funiculis brevibus erecta, orthotropa. *Stigma* terminale, sessile, depresso-hemisphæricum. *Baccæ* monospermæ. *Semen* . . . .—Herbæ *Indicæ*; tubere *radicali globoso, carnoso, maximo*, scapo *radicali brevissimo, subsolitario, basi squamoso*, spatha *maculata*, folio *serotino, pedati-partito, multilobo. Endl.*

Sauromatium *guttatum*; foliis pedati-multipartitis lobis oblongis acuminatis, spatha ad os tubi irregulariter subulato-repanda.

Sauromatium guttatum. *Schott., Meletem. v.* 1. *p.* 17. *Blume, Rumphia, v.* 1. *p.* 126. *Kth. Enum. Plant. v.* 3. *p.* 28.

Arum guttatum. *Wall. Pl. Asiat. Rar. v.* 2. *pl.* 10. *p.* 115.

A very remarkable Aroideous plant, native of the East Indies, where it is probably not uncommon. Dr. Wallich detected it in Nepal, Blume in Java. Roots of our plant were sent to us by our friend Mr. Law, Tanna, Bombay, in 1848, and they flowered in the stove in the spring of the following year. The flower was succeeded by the leaf. The said flower has no very agreeable smell, but Dr. Wallich observes it is far less offensive than many of the other species. Before expansion, Dr. Wallich found the heat at the bottom of the spatha to be very considerable.

Descr. From the top of a large almost globose *tuber*, and surrounded by three or four membranaceous spotted scales or bracteas, arises the singularly shaped, and no less singularly marked, sessile *spatha*, from a foot and a half to two feet long, almost cylindrical below, but somewhat swollen at the very base; at the height of three or four inches from the base the sheath opens, as it were, and is dilated into a large, lanceolato-subulate, channelled, fleshy *spatha*, which is reflexed and waved below at the margin: the *colour*, without livid or purplish-green, is within

greenish-yellow, palest below, and there marked with copious, small, red-purple spots, the rest with larger blotches, except at the apex, where it is rather streaked than spotted. *Spadix* erect below, and nearly cylindrical; at the base densely clothed with copious, obovate *ovaries*, above which are several spathulate, abortive *ovaries*, then naked to the apex of the erect portion, which is equally encased in the numerous sessile, two-celled anthers; above this commences the almost cylindrical but slightly attenuated apex, nearly a foot long, and of a livid purple colour. On the decay of the flower the leaf developes itself on a spotted stalk, and is pedato-partite, with the segments oblong, attenuated, entire. *W. J. H.*

Cult. A tuberous-rooted herbaceous plant, native of Bombay and other parts of India. The tubers lie dormant during the dry season, coming quickly into flower and leaf on receiving the stimulus of moisture. With us the roots are dormant in winter. They should be placed in a dry part of the stove, beyond the reach of receiving much moisture. Early in the spring the tubers should be examined, and (if necessary) repotted; using a mixture composed of light loam and peat in about equal proportion, placing the pot in heat, and watering it sparingly, till the tubers begin to grow. The flower-stem comes first, and after a time is succeeded by the leaves, which remain green during summer. It produces offsets freely from the sides of the tuber, which show themselves above ground. *J. S.*

Fig. 1. Lower fertile portion of the spadix :—*natural size*. 2. Pistil. 3. Anther :—*magnified*.

Look in front of the plate!

Tab. 4466.

ROUPELLIA grata.

Cream-fruit.

Nat. Ord. Apocyneæ.—Pentandria Monogynia.

Gen. Char. Calyx 5-partitus glandulis baseos (circa 12) in annulum dispositis. *Corollæ tubus* infundibuliformis; *faux* coronata ligulis 10 æquidistantibus basi in annulum connatis; limbi laciniæ 5, latæ, æstivatione sinistrorsum convolutæ. *Stamina* tubo inserta, inclusa, filamenta brevia, *antheræ* sagittatæ longe acuminatæ. *Stylus* filiformis, apice in massam 5-sulcatam antheris cohærentem dilatatus, ultra dilatationem vix productus et obscure emarginatus. *Nectarium* 0. *Ovaria* ? *Fructus* (*fide* R. Br.) *Voacangæ* v. *Urceolæ*.—Gen. nov. e tribu *Plumieriearum* et subtribu *Tabernæmontanearum*.—Frutex *glaberrimus, habitu* Tabernæmontanas Africanas *referens*. Folia *opposita, breviter petiolata, semipedalia, oblongo-elliptica, breviter acuminata, basi aculeata, crassiuscula, venis primariis a costa media divergentibus haud crebris subtus prominulis, rete venularum parum conspicua;* petioli *basi parum dilatati, linea transversali conjuncti et intus glandulis parvis acutis stipulæformibus aucti.* Cymæ *terminales, sessiles, dense* 6–8-*floræ, fere umbellæformes.* Bracteæ *ovato-lanceolatæ acute acuminatæ dorso carinatæ,* $1\frac{1}{2}$–2 *lin. longæ.* Pedicelli *bracteis longiores, calyce breviores.* Calycis lobi *obovati,* 6–8 *lin. longi, membranacei, apice colorati.* Corolla *alba pallide roseo-tincta,* tubus *sesquipollicaris, superne ampliatus, intus extusque glaber;* laciniæ *late obovatæ, margine crispæ, pollice paullo longiores.* Coronæ ligulæ *lanceolato-lineares, erectæ, pulchre roseæ,* 4–5 *lin. longæ.* Stamina *ad originem partis ampliatæ ubi inserta.* Filamenta *brevia, crassa, leviter papulosa.* Antherarum *acumen tubum corollæ fere superans, auriculæ baseos breves rectæ, pars media tantum pollinifera.* Ovarium *disco crassiusculo haud vero in nectarium producto insidens.*—*Bentham.*

Roupellia *grata.*

Roupellia grata. *Wallich et Hook. MSS.*

Cream-fruit. *Afzelius in "Sierra Leone Report,* 1794. *p.* 113. *n.* 7." *Brown, App. to Tuckey's Narr. p.* 449.

It is with no small degree of pleasure that we are enabled to give a representation of a very handsome and very fragrant plant of tropical Africa, noticed by Afzelius as the *Cream-fruit*, so called, we presume, from the use occasionally made of the cream-like juice of the fruit, but of which little seems to be known beyond the bare mention of it under that name by Afzelius and Mr. Brown. It is a native of Sierra Leone; (introduced to our stoves, we believe, by Mr. Whitfield,) and, in May 1849, we were favoured with beautiful flowering specimens by Mr. Pince of the

Exeter Nursery, from the collection of Mrs. Halford of Newcourt, near Exeter; a lady ardently devoted to the cultivation of rare exotics. It was exhibited under the name of *Strophanthus Stanleyanus*, at the Devon and Exeter Horticultural Society's Spring Exhibition, and gained a prize. The plant possesses additional interest, in our estimation, as being the one selected by Dr. Wallich and myself to bear the name of the family of Roupell, of whom not a few have served the cause of Botany: viz., Charles Roupell, Esq., of Charlestown, South Carolina, commemorated in many of the pages of Sir James E. Smith's 'Correspondence of Linnæus;' Dr. Roupell of Welbeck Street, London, his grandson; together with another grandson, Thomas Boone Roupell, Esq., a gentleman now high in the Civil Service of the E. I. Company, on the Madras Establishment; while the talented lady of the latter is the authoress of a beautiful work about to issue from the press, illustrated by her own pencil, on Plants of South Africa. Hence the name is appropriately commemorated in an African genus of no small beauty and fragrance.

We are indebted to Mr. Bentham, who is now engaged in the preparation of the plants of the Niger Expedition, for the above generic character and description, which render any further botanical remarks on our part needless. If, as we trust, the plant comes into general cultivation, it cannot fail to be much prized; if not for the application of the fruit (which may be better suited to an African than to an English palate), yet assuredly for the size and beauty of colour of its flowers, no less than for their agreeable odour. *W. J. H.*

Cult. This handsome, climbing, shrubby plant, being a native of Sierra Leone, consequently requires to be grown in a warm and moist hot-house. It is of free growth, and, being a smooth clean-leaved plant, not subject to insects, is well adapted for a trellis, or to train up a pillar or rafter; and it will also form a bushy plant grown in a pot, if supported with a wire trellis, or by neat stakes. Good fresh loam, with a little leaf-mould, will suit it. As it is a fast grower, it requires water freely during summer; but care must be taken that the soil does not become stagnant. It is propagated by cuttings, which strike root readily when placed under a bell-glass, and the pot plunged in bottom heat. It appears to be a shy flowerer; for, although we have known it in cultivation for several years, we have not heard of its producing flowers, except in the collection above-mentioned. *J. S.*

Fig. 1. Calyx and pistil. 2. Stamens. 3. Pistil and perigynous scales. 4. Stamen. 5. Section of the ovary:—*magnified.*

Fitch del. et lith.

Tab. 4467.

ARISTOLOCHIA MACRADENIA.

Large glanduled Birthwort.

Nat. Ord. Aristolochieæ.—Gynandria Hexandria.

Gen. Char. (*Vide supra*, Tab. 4361.)

Aristolochia *macradenia ;* scandens glaberrima, foliis sublonge petiolatis cordato-hastatis, sinu profundo lato lobis rotundatis, pedunculo axillari solitario unifloro petiolo sublongiore, perianthii unilabiati tubo basi inflato striato, limbo ovato lateribus reflexis supra reticulatis glandulosis, glandulis magnis globosis stipitatis.

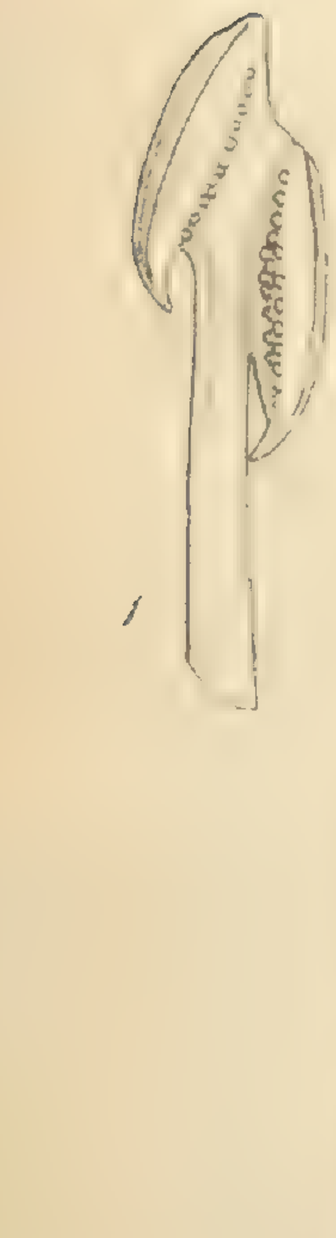
This curious plant flowered, in a warm greenhouse of the Royal Gardens of Kew, in the spring of 1849, and there our drawing was made. It had bloomed the year before with John Taylor, Esq., of Sheffield House, Kensington, to whom we are indebted for the possession of the plant. That gentleman imported it from Real del Monte. It is one of the most remarkable and distinct of the many species of the genus.

Descr. Cultivated in a pot, with a balloon trellis, this forms a suffruticose, climbing *plant*, with long, slender, terete *stems*. *Leaves* alternate, four to five inches long, petiolate, between cordate and hastate, tapering to an acute point, glabrous, with about seven principal nerves and several connecting nervelets, the *sinus* deep and broad, the lobes large, rotundate, spreading. *Petiole* about an inch and a half long. *Peduncle* longer than the petiole, axillary, solitary, single-flowered. *Flower* rather large, somewhat drooping, including the germen, almost as long as the leaves. *Ovary* slightly downy, inferior, club-shaped, furrowed. *Tube* greenish, striated, the lower half much inflated, then contracted, at the summit again dilated and extending into a single declined, large, ovate *lip*, the sides always revolute, the upper surface rich brown, with yellow reticulated veins, and beset with large stipitate, globose *glands*, looking almost like the fructification of some *Calicium*. The tube inside is slightly hairy, and there is a scale at the summit of the inflation. *Column* oval,

with six linear *anthers* on the sides, and a six-cleft *stigma* at the top. *W. J. H.*

Cult. In all cases of strong-growing creeping plants, where there are means for planting them out, we always do so, as few can be cultivated to advantage in pots. This being a weak and slender-growing species of *Aristolochia*, it may be grown in a moderate-sized pot. With us it has flowered freely, trained to wire trellis fixed to the pot, and kept in a stove, the temperature of which in winter may average about 50°. A mixture of light loam and sandy peat-soil suits it. Propagated by cuttings, treated in the usual way. *J. S.*

Fig. 1. Section of the base of the perianth :—*magnified*.



2

3

Fitch del et lith.

R.B. & R.imp.

Tab. 4468.

CYRTANTHERA AURANTIACA.

Orange-flowered Cyrtanthera.

Nat. Ord. Acanthaceæ.—Diandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4444.)

Cyrtanthera *aurantiaca*; fruticosa erecta, caule acuto tetragono, foliis lato-seu elliptico-lanceolatis rigidiusculis in petiolum breviusculum crassum attenuatis, thyrso compacto ovato, floribus erectis flavo-aurantiacis, bracteis ellipticis, bracteolis sepalisque lanceolatis pubescentibus, corollæ labio superiore recto.

Calcostylis aurantiaca. *Makoy's Cat.*

The Acanthaceous plants contain many beautiful species known at present to us only in our Herbaria, but which are eminently worth cultivating, witness the many species of *Strobilanthes*, *Barleria*, &c. of the East Indies, especially of Ceylon; while the New World, in *Dipteracanthus* and the genus here represented of tropical South America, presents individuals of equal merit in regard to beauty. Already two species of *Cyrtanthera* have appeared in our Magazine, the *Justicia carnea* (Tab. 3383), now called *Cyrtanthera magnifica* by Nees, and our *C. catalpæfolia* (Tab. 4444). There can be no doubt of the present being a congener of those. We received our plant, at the Royal Gardens, Kew, from our often-mentioned friend Mr. Henderson, of Pine-Apple Place; and it appears to have been sent to him from Belgium under a name we can nowhere find in print, save in Makoy's Catalogue, but without any history of its introduction to Europe, or any mention of native locality.

Descr. A *shrub* with erect stem: *branches* rather stout, herbaceous, acutely tetragonal. *Leaves* opposite, broadly elliptical, lanceolate, slightly acuminate, rather rigid, penninerved, tapering below into a rather short thick *petiole*. *Flowers* large, handsome, bright-coloured, copious, erect, forming a dense terminal, bracteated thyrsus. *Bracteas* (at least the lower ones)

almost half as long as the flower, elliptical, approaching to ovate, appressed, leafy. *Bracteoles* lanceolate, downy, scarcely longer than the sepals of the calyx, which resemble them, but are smaller. *Corolla* full golden-yellow on first expansion; afterwards the tube and lower lip become orange-red. *Limb* nearly as long as the tube, upper lip erect, acuminate, the point bifid: lower lip oblong, much reflexed, three-fid, the segments linear, approximate, straight. *Filaments* nearly as long as the corolla, lodged in the channelled upper lip. *Anther-cells* separated by a connectivum, one higher up than the other, both with a short spur at the base, glandular at the margin. *Ovary* immersed in a large cup-shaped, irregular gland: *style* pubescent at the base, as long as the corolla: *stigma* a little thickened, bifid. *W. J. H.*

Cult. This species of *Cyrtanthera* has a much stiffer habit, and of less luxuriant growth than the species figured at Tab. 4444. The treatment there mentioned will suit it; but, on account of its weaker habit, care must be taken not to over-pot it. A succession of young plants should be kept, as it is apt to become naked and unsightly after flowering;—a circumstance common to most of the soft-wooded, suffruticose *Acanthaceæ*. *J. S.*

Fig. 1. Anther. 2. Bracteoles, calyx, and pistil. 3. Ovary and cup-shaped nectary:—*magnified.*

Fitch del et lith.

Tab. 4469.

NYMPHÆA ampla.

Broad-leaved Water-Lily.

Nat. Ord. Nymphæaceæ—Polyandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4257.)

Nymphæa *ampla*; foliis cordato-rotundatis peltatis grosse dentatis glaberrimis reticulatis maculatis superne minute tuberculatis subtus coloratis nervis prominentibus sinu profunde angustissimo, sepalis lineato-maculatis, petalis albis, antheris exappendiculatis exterioribus longissimis, stigmate concavo sub- 26-radiato.

Nymphæa ampla. *De Cand. Syst. v.* 2. *p.* 54. *Prodr. v.* 1. *p.* 115. *M'Fad. Fl. Jam. p.* 19.

Castalia ampla. *Salisb. Ann. Bot. v.* 2. *p.* 73.

Nymphæa Rudgeana. *Meyer, Fl. Prim. Esseq. p.* 198.

Nymphæa Lotus. *Lunan, Jam. p.* 271.

Nymphæa Indica flore candido, &c. *Sloane, Jam. v.* 1. *p.* 252.

Nymphæa foliis amplioribus, &c. *Browne, Jam. p.* 243.

At p. 3. of the Companion to the Bot. Mag. vol. 74. is given an account of the re-discovery of the long lost *Nelumbium Jamaicense*. Together with tubers of that noble plant, those of the present little known but very handsome species of Water-Lily were sent to us by our valued friend Dr. M'Fadyen.* We shared them with Mr. Silvester, of North Hall, Chorley, Lancashire, a most successful cultivator of *Nymphæaceæ*, and he had the good fortune to flower the plant in May 1849. From the specimen sent by that gentleman our figure is taken. Its nearest ally is the *N. versicolor* (Bot. Mag. t. 1189), whose flowers vary to white; but the leaves in this are more deeply toothed, almost lobed, the colour on the underside is much deeper, the young leaves are wholly and deep red, there are copious linear dark spots on the foliage and sepals, and the tubers are very different.

Descr. *Tubers* about the size of a chestnut, rounded, but

* We are rejoiced to know that Dr. M'Fadyen is engaged in continuing his '*Flora of Jamaica*.'

flattened at the top, from which the leaves issue. *Leaves* large, ample, floating, nearly orbicular, peltate, glabrous, with a deep very narrow sinus, reaching nearly to the insertion of the petiole, deeply and irregularly toothed, or almost sinuato-lobate at the margin, lobes or teeth very irregular, those at the sinus the longest and sharpest; the colour is purplish-green above, dark purplish-red below, on both sides reticulated with nerves, the nerves prominent and pale beneath, and on both sides marked with numerous, linear, black dots or short lines, radiating from the centre, more copious and larger towards the apex of the lobes. The *flowers* rise above the water, and are white, larger than those of our own *N. alba*. *Sepals* four, ovato-lanceolate, pale yellow-green, sprinkled with brown linear dots, outer *petals* subsepaloid, all of them lanceolate, obtuse, the interior a little smaller. *Stamens* numerous, yellow. *Filaments* short, awl-shaped; outer *anthers* very long, spreading; inner ones forming a cone over the many-rayed *stigma*. *W. J. H.*

Cult. A tropical perennial aquatic, furnished with tuberous roots, that lie dormant in the muddy soil, during the dry season, and start into growth on being overflowed with water. In cultivating this plant the tubers should, early in the spring, be taken out of the last year's soil, and repotted in fresh pure loam, immersing the pots in water to the depth of about an inch below the surface of the pot. Where there is not the advantage of a proper tropical aquarium to grow them in, large pans or shallow tubs may be used, placed in a temperature of 65° to 75°, fully exposed to the sun. As the leaves increase in size, sufficient room must be given to allow them to float freely on the surface of the water; for if they become overcrowded the under ones soon decay, which affect the others. Care is also requisite to keep the leaves free from *Conferva;* and to assist in doing so a portion of the water should be drawn off every day, and fresh water added. Towards the end of autumn the leaves begin to decay: the water should then be gradually withdrawn, allowing only sufficient to keep the soil in a state of mud during winter; at the same time lowering the temperature of the house, which, on an average, may be kept about 60°. *J. S.*

Fig. 1. Section of the ovary :—*natural size*.

Fitch del et lith.

R.B. & R imp

Tab. 4470.

CUPANIA Cunninghami.

Mr. Cunningham's Cupania.

Nat. Ord. Sapindaceæ.—Octandria Monogynia.

Gen. Char. Calyx 5-partitus æqualis. *Corollæ* petala 5, receptaculo inserta, calycis laciniis alterna, æqualia, supra unguam squamula aucta, interdum nulla. *Discus* calycis fundum occupans regularis, integerrimus v. crenulatus. *Stamina* 8, v. 10, disco intus inserta; *filamenta* filiformia, libera, *antheræ* introrsæ, biloculares, dorso insertæ, mobiles, longitudinaliter dehiscentes. *Ovarium* centrale, sessile, triloculare. *Ovula* in loculis solitaria, angulo centrali paullo supra basim inserta, adscendentia. *Stylus* simplex, apice trifidus, lobis intus stigmatosis. *Capsula* coriacea v. sublignosa, pyriformis, 2–3-gona, 2–3-locularis, loculicide 2–3-valvis, valvis medio septiferis. *Semina* in loculis solitaria, subglobosa, erecta, arillo cupulæformi carnoso inclusa, *testa* crustacea. *Embryonis* exalbuminosi, plus minus curvati, *cotyledones* crassissimæ, incumbentes, *radicula* brevis, umbilico proxima, infera.—Arbores *v.* Frutices *erecti, inter tropicos totius orbis crescentes;* foliis *alternis petiolatis, exstipulatis, abrupte pinnatis*, foliolis *oppositis v. alternis integerrimis v. serratis, interdum pellucido-punctatis*, floribus *polygamis in racemos axillares dispositis. Endl.*

Cupania *Canninghami*; ramis petiolis foliisque subtus paniculis calycibus fructusque pubescenti-ferrugineis, foliis pari-pinnatis foliolis 8–10 oblongis brevissime petiolulatis, petalis 4 rotundatis unguiculatis pilosulis intus bisquamosis, squamis hirtis spathulatis dorso glanduloso-cristatis.
Stadtmannia australis. *All. Cunn. MSS.*

The attention of most visitors to the great stove of the Royal Gardens is attracted to a lofty growing shrub or tree among the Palms, exceeding many of them in height, with large pinnated leaves, with the young branches especially clothed with ferruginous down, and labelled *Stadtmannia australis* of Allan Cunningham: it flowers in the spring, and is succeeded by large clusters of orange-coloured downy fruit, which split open while yet attached to the plant, and exhibit the bright orange pulpy arillus containing the seed. This is the plant of which we here represent as much as our ordinary-sized plate will allow. It is a native of New Holland, on the north-east coast near the tropics, and was discovered by Allan Cunningham, who speaks of it in his notes before me as "a tree 30–40 feet high, found in dark woods at Five Islands district, and on the banks of Hastings River, at Port Macquarrie and Brisbane in Moreton Bay." I have specimens likewise, gathered at West Macquarrie by Mr. James Backhouse. *Stadtmannia* of Lamarck has now merged into *Cupania*; and other species being found in Australia I have named the species after its lamented discoverer. It is a noble plant with handsome foliage and fruit, but rather insignificant flowers, and of too lofty growth for ordinary cultivation.

Descr. A small *tree*, chiefly branched at the top, *branchlets*

and all the younger parts, the petioles, leaves beneath, panicles, calyx, and fruit clothed with rusty down. *Leaves* one to two feet long, pinnated with four or five pairs of opposite, elliptical *leaflets*, smooth and glossy above, penninerved, the nerves very prominent and conspicuous beneath. *Panicles* terminal, often very compound, furnished with small deciduous red *bracteas*. *Calyx* obtuse or truncated at the base, cup-shaped, cut into five equal, hairy, ferruginous, ovato-triangular, erect segments. *Petals* four, white, suborbiculate, erose, slightly hairy, erect or a little incurved, shorter than the calyx, clawed : within are two, large, spathulate, inflexed, hairy *scales* or *appendages*, the back near the apex of each bearing a glandular yellow stipitate crest. *Stamens* eight, erect, longer than the calyx and corolla, equal. *Filaments* subulate. *Anthers* oblong, two-celled, erect, pale yellow. *Ovary* subrotund, three-lobed, seated on one side of and upon a large bright orange-coloured fleshy *gland* or disk, densely clothed with ferruginous down and hairs : *style* longer than the stamens, with spreading setæ : *stigma* minute, three-fid. *Fruit* a three-lobed, depressed *capsule*, each lobe opening in the centre by a vertical fissure, and containing a solitary brown *seed*, enveloped by a pulpy *arillus*. *Embryo* green. *W. J. H.*

Cult. A large tree of robust growth, in its native forests conspicuous above the other trees, the bark having an iron-like appearance. It is a native of the east coast of New Holland, about 31° south latitude, and therefore not adapted for out-door cultivation in this country. The plant from which the drawing was made was introduced in 1825, and for a number of years was kept in the green-house, and shifted as it increased in size into a larger pot, and ultimately into a plant-tub, in which it out-grew our green-house accommodation ; this caused it to be removed into the tropical Palm-house, where the stimulus of a warmer atmosphere induced it to flower for the first time during the present summer, and having perfected its seeds it has enabled us to obtain a stock of young plants ; for on account of its little tendency to throw out lateral branches we have not had the opportunity of increasing it by cuttings. It has therefore been considered a rare plant in this country, and being best adapted for growing in lofty houses, it can only be valued by a few ; but as it is of remarkable and striking habit, and on that account worthy of being admired, it may be kept in a small state for a number of years ; like a second plant in this garden of the same age, which is not half the size of the first. *J. S.*

Fig. 1. Flower. 2. Petal with its appendages. 3. Stamen. 4. Pistil and hypogynous gland :—*magnified.* 5. Capsule. 6. Pulpy arillus, containing the seed. 7. Arillus laid open, showing the seed. 8. Seed. 9. Embryo :—*natural size.*

1.

Fitch, del et lith

R.B. & R. imp.

Tab. 4471.

METROSIDEROS FLORIDA.

Copious-flowering Metrosideros.

Nat. Ord. Myrtaceæ.—Icosandria Monogynia.

Gen. Char. Calycis tubus ovario adhærens non angulatus, *limbus* 5-fidus. *Stam.* 20–30 longissima exserta. *Stylus* filiformis. *Stigma* simplex. *Capsula* 2- sæpius 3-locularis, loculis polyspermis. *Semina* aptera.—Arbores *aut* frutices. Folia *opposita aut alterna.* Flores *pedicellati nec ullo modo ut in* Melaleuca *et* Callistemone *ramo adnati.*

Metrosideros *florida*; foliis oppositis oblongo-ovatis glabris parallelim distincte venosis subcoriaceis glabris, corymbo composito terminali, calycibus turbinatis, petalis staminibusque coccineis, fructibus urceolatis 5-costatis.

Metrosideros florida. *Sm. in Linn. Trans. v.* 3. *p.* 268. *De Cand. Prodr. v.* 3. *p.* 224. *Ach. Rich. Fl. Nov. Zeal. p.* 333. *All. Cunn. Bot. N. Zeal. in Ann. Nat. Hist. v.* 3. *p.* 113.

Melaleuca florida. *Forst. Prodr. n.* 114.

Leptospermum scandens. *Forst. Gen. t.* 36. *n.* 1.

A native of dense forests in New Zealand, introduced to our green-houses by Mr. Allen Cunningham, but although long admired for the beauty of its foliage, it blossomed for the first time in May 1849, when the bright red corymbs of flowers added in no small degree to the charm of the shrub.

Descr. A *shrub* with us, about five feet high, everywhere glabrous, forming indeed a compact mass, but every now and then sending out spreading branches, which indicate that under favourable circumstances the plant would be scandent. *Branches* rounded, or but indistinctly angular, reddish-brown. *Leaves* opposite, an inch or an inch and a half long, subcoriaceous, on short *petioles*, elliptical-ovate, even, slightly glossy, distinctly and closely nerved on both sides, the nerves uniting with an extra marginal nerve; dark green above, pale beneath, where also the dotting is more distinct than on the upper side, but not visible to the naked eye. *Corymbs* terminal, almost sessile. *Peduncle* red, compound. *Calyx* turbinate, attenuated below;

the *limb* five-lobed; *lobes* rounded, green. *Petals* orbicular, concave, red, deciduous, longer than the calycine lobes. *Stamens* numerous, at first involute, then spreading, four times as long as the petals; *filaments* and *anthers* red. *Style* about as long as the filaments. *Stigma* a little dilated. *W. J. H.*

Cult. This is a fine glossy-leaved evergreen shrub, forming under our cultivation a handsome bush, having much resemblance to the Myrtle. Although a native of New Zealand, the climate of which is said to be similar to that of Great Britain, yet we find it not sufficiently hardy to bear the open air in this country, during the low temperature of some of our winters, especially such as are sometimes experienced in the eastern and midland districts; but we have every reason to believe that the climate of the coasts of Devon and Cornwall, and the south and west of Ireland, would be suitable for growing the plant in the open air, and that it would there flourish unprotected, and prove a highly ornamental shrub. Its habit shows it to love moisture, and although with us it grows freely, treated as a green-house plant in a pot or tub in loam, yet in its own country it assumes a very different habit, being epiphytal, climbing up and extending itself on trees to a great height, becoming fixed by its its aerial roots and branches, which interlace with the trees on which it grows, forming dense leafy masses similar to Ivy in this country, but of a much gayer appearance when in flower. We find it disposed to throw out roots on the main branches: it therefore readily increases by cuttings treated in the usual way. *J. S.*

Fig. 1. Flower:—*magnified.*

Fitch del et lith

R.B.& R.imp

Tab. 4472.

GONOLOBUS Martianus.

Dr. von Martius' Gonolobus.

Nat. Ord. Asclepiadeæ.—Pentandria Digynia.

Gen. Char. Calyx 5-partitus, sepalis patulis. *Corolla* subrotata, 5-partita, æstivatione contorta, laciniis sæpissime patulis sed interdum patenti-reflexis v. erectiusculis. *Coronæ stamina* carnosula, parva, ad faucem corollæ apposita, annuliformis, undulato-lobata, lobis integris prominentibus. *Gynostegium* breve. *Antheræ* transversim dehiscentes, membrana terminatæ. *Massæ pollinis* extremitate exteriori, loculi respectu, affixæ, apice hinc pellucidæ, stigmate tectæ. *Stigma* planiusculo-depressum, pentagonum, sæpe margine angusto cinctum. *Folliculi* ventricosi, subcostati, spinis innocuis plus minusve echinati. *Semina* comosa.—Frutices *Americani volubiles.* Folia *opposita cordata, ad limbi ortum glandulifera, sæpissime hirta,* pedunculi *interpetiolares, racemi v. corymbiformes;* flores *virentes, fusci v. atropurpurei, haud raro reticulato-venosi v. submarmorati. DC.*

Gonolobus *Martianus*: ramis petiolis pedunculisque pilis longis (siccitate ferrugineis) patentibus hirsutis, foliis pubescenti hirtis oblongo-ovatis cuspidato-acuminatis basi cordatis sinu clauso, pedunculis demum folio longioribus, umbellis plurifloris, sepalis (rubris) lanceolato-acuminatis patenti-reflexis hirtis corollam (albam basi viridem) æquantibus, corollæ lobis ovato-rotundatis medio sulcato-plicatis, coronæ stamineæ lobis rotundatis carnosis.

Fischeria martiana. *Dcsne., in De Cand. Prodr. v.* 8. *p.* 601.

An Asclepiadeous plant, very closely indeed allied to *Gonolobus velutinus*, Schltdl. from Mexico (differing chiefly in the longer leaves and longer peduncles and approximate lobes to the base of the leaves),—and of which Decaisne says, "Habitu necnon inflorescentia *Fischeriæ*:" and on referring to *Fischeria* it will be seen to accord admirably with *F. Martiana*, described as a native of the island of St. Sebastian, Brazil: the spot where our fine dried specimens were gathered by the late Mr. Fox, when he was our Minister at the Court of Brazil. If, as I believe, I am correct in this reference, the plant is surely not distinct from *Gonolobus*, of which another nearly allied but not distinct species is the *Gonolobus setosus*, Benth. (Pl. Hartweg, n. 1193.) In the stove of the Botanic Garden of Kew the plant proves to be a large climber,

loaded with pretty clusters of flowers in May and June, and covering to a great extent the gallery of the Palm House.

Descr. Scandent, much branched; *branches* densely clothed with patent hairs, which become reddish in drying. *Leaves* on shortish hairy foot-stalks, oblong-ovate, hairy on both sides, almost velutinous, mucronato-acuminate at the point, cordate at the base, with a deep but closed sinus. *Peduncles* axillary, solitary, at first flowering shorter than the leaves, afterwards elongated, hairy, bearing a many-flowered umbel with hairy pedicels. *Calyx* red, hairy: *sepals* narrow, lanceolate-acuminate, as long as the corolla. *Corolla* white, with a deep green radiating ring at the base: *lobes* spreading, ovato-rotundate, obtuse, longitudinally plaited in the middle. *Lobes* of the staminal crown rounded, fleshy. *W. J. H.*

Cult. A tropical soft-wooded twining plant, of rapid and extensive growth, well adapted to cover trellis-work, pillars, &c., and recommending itself by its numerous bunches of flowers, and in not being subject to insects. Where it is required to cover a great space it should be planted in a mixture of loam and peat, about eighteen inches in depth, and well drained. It may also be grown in a pot, and trained up the rafters of the house, or on a wire trellis fixed to the pot; and by occasionally stopping the leading shoots it may be made to flower abundantly. It is readily increased by cuttings, placed in bottom heat under a bell glass. *J. S.*

Fig. 1. Staminal crown:—*magnified*.

2.

3.

1

4.

Fitch del. et lith.

R. B. & R. imp.

Tab. 4473.

ESCALLONIA MACRANTHA.

Large red-flowered Escallonia.

Nat. Ord. Saxifrageæ.—Pentandria Monogynia.

Gen. Char. (Vide supra, Tab. 4274.)

Escallonia (Sect. *Stereoxylon*, Presl) *macrantha*; ramulis glanduloso-pubescentibus, foliis obovato-ellipticis obtusiusculis reticulatis serratis basi cuneatis glabris subtus resinoso-punctatis, panicula terminali, bracteolis deciduis, calycis glanduloso-pilosi laciniis subulatis.

Escallonia macrantha. *Hook. et Arn. in Bot. Misc. v.* 3. *p.* 341.

Our first knowledge of this fine *Escallonia* was from Mr. Cuming, who collected specimens in Chiloe (n. 26 of his Herbarium); but it was Messrs. Veitch who imported living plants to Exeter, from the same country, through their collector Mr. W. Lobb. As might be expected from its native locality, it proves hardy, and is assuredly the handsomest of all the species of *Escallonia* known to us. It flowers in June, and continues in blossom for a long period.

Descr. A handsome *shrub*, two to three feet or more high, branched. *Branches* terete, the younger ones clothed with glandular pubescence. *Leaves* alternate, obovato-elliptical, rather obtuse, cuneate at the base, strongly and doubly serrated at the margin, reticulated on the surface, glabrous, dark and shining above, beneath paler and dotted with resinous points. *Panicle* terminal: *pedicels* bracteolated, the *bracteoles* deciduous. *Flowers* large, red. *Calyx* turbinate, clothed with stipitate viscid *glands*; the lower portion of the tube adherent with the ovary, the upper half free, campanulate, cut half-way down into five, erect or slightly spreading, subulate *teeth*. *Corolla* of five, spathulate *petals*, the *claws* erect and forming a tube, the *laminæ* spreading horizontally. *Stamens* as long as the tube. *Ovary* two-celled. *Style* columnar, surrounded at the base by a large, furrowed *gland*. *Stigma* thick, dilated, obscurely two-lobed. *Fruit* turbinato-cylindrical, surmounted by the spreading persistent limb of the calyx and the style. *W. J. H.*

October 1st, 1849.

Cult. We have not had sufficient experience in cultivating this new species of *Escallonia* to know what degree of cold it will bear; coming from South Chili we expect it will prove as hardy as the several species of the genus already known in this country. Although none of them will bear the very low temperature to which this climate is occasionally subject, yet, if placed against a wall, in a warm sheltered place, with the precaution to protect them with a mat, and a layer of dry leaves or fern over the roots during frost, they may be preserved through our ordinary winters; but to be safe against loss, it is recommended to keep a duplicate plant in the greenhouse. The present species is a free-growing shrub, and propagates readily from cuttings, placed under a hand-glass in a frame. *J. S.*

Fig. 1. Calyx and pistil. 2. Pistil. 3. Section of the ovary:—*magnified.*
4. Fruit:—*natural size.*

1.

2.

Tab. 4474.

BRASSAVOLA Digbyana.

Mr. Digby's Brassavola.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Sepala et *petala* subæqualia, libera, acuminata. *Labellum* cucullatum, integrum, columnam involvens. *Columna* marginata, clavata, *stigmate* infundibuliformi, clinandrio postice tridentato. *Pollinia* 8, subæqualia, quibusdam aliis parvis interjectis. *Anthera* 4-locularis, septis marginatis, loculis semibipartitis.—Herbæ *caulescentes, epiphytæ, apice* folium *unicum alterumve semicylindraceum*, (*raro planum*) *carnosum, supra sulcatum apice subulatum gerentes.* Flores *terminales, magni, speciosi. Lindl.*

Brassavola *Digbyana*; foliis ellipticis carnosis planis carinatis glaucis, flore solitario, labello sessili cucullato-cordato marginibus longe fimbriato-crinitis, clinandrio dente postico subulato incumbente.

Brassavola Digbyana. *Lindl. Bot. Reg.* 1846, *t.* 53.

The most remarkable of all the *Brassavolas* (of which genus Dr. Lindley enumerates fifteen described species), and among the most singular of Orchideous plants, a native of Honduras, whence it was introduced by Mrs. M'Donnell, the lady of the late Governor. It flowered in the Orchideous house of the Royal Gardens in June, and is deliciously fragrant.

Descr. *Pseudo-bulbs* elongated, stem-like, compressed, jointed, the joint sheathed, terminated by a solitary elliptical, glaucous, thick, fleshy, but flattened though carinated *leaf*. From the base of the leaf arises the *peduncle*, compressed and sheathed, terminated by a solitary, very large, fragrant *flower*. *Sepals* and *petals* nearly similar, oblong, spreading, pale-purplish green, faintly striated, the *petals* paler and rather broader. *Lip* very large, cucullate, cordate, white or cream-coloured, surrounding entirely the column, faintly striated or nerved, the margin nearly all round cut into a broad hair-like fringe; the disk furnished with a large green tubercle. *Column* semiterete, winged. *Stigma* with three furrows. From the back of the *clinandrium* rises a

tooth which curves over part of the hemispherical anther. *Pollen-masses* eight, wedge-shaped. *W. J. H.*

Cult. This is a rather slow growing epiphytal Orchid. With us it flowers attached to a block of wood, suspended from the roof of the tropical Orchideous house. *J. S.*

Fig. 1. Column. 2. Pollen-masses :—*magnified.*

Fitch, del et lith.

R. B. & R. imp.

Tab. 4475.

HELICONIA ANGUSTIFOLIA.

Narrow-leaved Heliconia.

Nat. Ord. Musaceæ.—Pentandria Monogynia.

Gen. Char. Perigonii epigyni *foliola* exteriora æqualia, basi inter se concrescentia, interiora lateralia subconformia, approximata, genitalia amplectentia, posticum nanum. *Stamina* 5, sexto postico abortiente, basi perigonii adnata. *Ovarium* inferum, triloculare. *Ovula* in loculis solitaria, e basi axeos adscendentia, anatropa. *Stylus* filiformis; *stigma* depressiusculum, obsolete sexlobum. *Capsula* subdrupacea, tricocca; *coccis* osseis, indehiscentibus. *Semina* in coccis solitaria, obovato-subglobosa, basifixa, testa ab endocarpio vix solubili. *Embryo* orthotropus, linearis, in axi albuminis farinaceo-carnosi, extremitate radiculari umbilicum attingente, infera.—Herbæ *Americanæ tropicæ*; foliis *longe petiolatis*, petiolis *basi vaginantibus*, *scapum radicalem sæpe velantibus*, spathis *pluribus distichis, in axilla floriferis. Endl.*

Heliconia *angustifolia*; foliis lingulato-oblongis angustis utrinque acuminatis, costa subtus vaginis petiolisque valde elongatis pulverulento-pubescentibus, rachi flexuosa, spathis (6–7) multifloris lanceolatis acuminatis complicatis, spathellis lanceolatis, sepalis (albis) lineari-oblongis acutis erectis, sepalo nano trulliformi.

A very handsome and rather dwarf species of *Heliconia*, introduced by Mr. Henry Shepherd, to the Liverpool Botanical Gardens, from Brazil. It flowered in January 1846, when its beautiful bright red spathas, deep orange-coloured ovaries and white sepals tipped with green had a very handsome effect. No described species corresponds with it, and, thanks to Dr. Walpers, all the recently published ones are included in his "Annales Botanices Systematicæ."

Descr. I have not seen the entire growing plant. The *flower-stem* sent to me was sheathed by the bases of the long *petioles*, and the principal *leaf* was a foot and a half long and about three inches wide, ligulato-oblong, with a stout *costa* and parallel oblique *nerves*, acuminated at both ends, glabrous, except that the costa beneath, as well as the very long, terete *petioles* and cylindrical *sheaths* (at least in their upper part), were clothed with a scattered pulverulent or scurfy down. The upper leaf is

rather small, above a span long, the petiole reduced to a spathaceous *sheath*, red at the base: from within this sheath the flexuose *rachis* appears, a span and more long, deep red, bearing, at distances of an inch or more, each arising from a nodus, six or seven lanceolate, acuminate, bright red, conduplicate *spathas*, the lowest one six inches long, the rest gradually shorter and less acuminated. *Flowers* eight to ten in the axil of the sheath, mixed with a few yellow-white, small, lanceolate *spathellæ*. *Pedicels* about an inch long, orange-colour. *Ovary* inferior, turbinate, subtriangular, a little wrinkled, deep orange. *Sepals* white, tipped with yellow-green, three inches long, linear-oblong, acute, erect: three outer the longest, the sixth (upper one) very dwarf, a trowel-shaped scale. *Stamens* five, unequal. *Anthers* linear. *Style* a little shorter than the stamens. *W. J. H.*

Cult. This belongs to a genus of tropical plants inhabiting moist places, conspicuous by their fine broad leaves and showy flowers, which are borne on a kind of stem formed by the sheathing petioles, in some species attaining the height of eight to ten feet, and slowly dying after having flowered; forming, with *Thalia* and other allied genera, dense thickets in their native localities. The present may be considered a dwarf species of the genus, as it does not attain more than between three and four feet in height. It requires to be kept in the stove, and grown in a large pot, planting it in light loam and supplying it freely with water during summer. Its creeping rhizoma-like roots soon fill the pot and produce a crowd of leafy stems; but in order to obtain a vigorous growth, it is necessary occasionally to divide the roots, repotting them in fresh soil, which operation should be done in the autumn or early in the spring. *J. S.*

Fig. 1. Flowers with five larger sepals removed.

Fitch del et lith.

R.B & R imp.

Tab. 4476.

SCHOMBURGKIA TIBICINIS; var. GRANDIFLORA.

Trumpet Schomburgkia; large-flowered var.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Sepala et *petala* conformia, patentia, omnino libera, basi æqualia. *Labellum* difforme, membranaceum, trilobum, semicucullatum, basi cum margine columnæ connatum, supra basin tumidum (intrusum): venis lamellatis. *Columna* alata. *Pollinia* octo.—Rhizoma *repens*, *nudum*, *annulatum*, *pseudo-bulbigerum*. Pseudo-bulbi *magni*, *elongati*, 2–3-*phylli*. Folia *coriacea*. Scapi *terminales vaginati*. Bractæ *magnæ*, *siccæ*, *spathaceæ*. Flores *speciosi*, *racemosi*, *congesti*. *Lindl.*

Schomburgkia *tibicinis*; pseudo-bulbis conicis corniformibus annulatis sulcatis 3-phyllis, foliis oblongis coriaceis patentibus, scapo longissimo tereti distanter squamato apice paniculato, panicula pyramidali laxiflora, sepalis petalisque undulatis crispis, labello oblongo cucullato venis per medium 5 elevatis approximatis, laciniis lateralibus apice rotundatis intermedia subrhombea emarginata, anthera emarginata. *Lindl.*

Schomburgkia tibicinis. *Batem. Orchid. Mex. et Guat.* t. 30.

Var. β. *grandiflora*; floribus duplo majoribus labello extus palliido intus lobo medio luteo albo v. violaceo-limbato. *Lindl. Bot. Reg.* 1845. *t.* 30. (Tab. Nostr.)

Dr. Lindley considers this a variety of the *S. tibicinis* of Mr. Bateman's splendid work on the "Orchideæ of Mexico and Guatemala:" but it would perhaps be more correct to consider it the perfect state of the plant, such as it assumes in its native woods (Honduras) and such as good cultivated specimens exhibit in our stoves. The natives use the hollow stems or pseudo-bulbs as a horn or trumpet. These stems harbour insects, too, in great numbers. Mr. Bateman tells us that "Mr. Skinner, its original discoverer, was not permitted to obtain quiet possession of the first flowering specimens he saw; for swarms of fiery ants issued forth in thousands from their snug retreat, to repel the spoiler, and inflicted pangs which none but the most ardent naturalist would have braved." It blossoms with us at Kew in June.

Descr. Our flowering plant is a noble specimen, which we

received from Mrs. Macdonnell, in 1843. The *pseudo-bulbs* grow in dense clusters a foot and a half long, swollen and annulated, terete, tapering upwards, terminated by two, rarely three, oblong, spreading, coriaceous *leaves*. *Peduncle* terminal, very long, bearing a *panicle* (of which our figure represents but a branch) of large showy bright-coloured *flowers*. *Sepals* and *petals* equal, spreading, oblong, waved, obtuse; palish purple without, deeper and redder purple within, streaked with darker lines, tipped with green. *Lip* large: two side-lobes much the largest, pale without, streaked towards the edge with purple; within orange (except a pale line down the centre), streaked and reticulated with dark purple: middle lobe white stained with yellow, having a broad purple border. *Column* thick, about half the length of the lip. *Anther-case* notched. *W. J. H.*

Cult. This is a rather slow-growing epiphyte, requiring the temperature of the warm Orchideous house. It may be either grown on a block of wood suspended from the roof, or in a shallow pot or basket, filled with a thin layer of turfy peat mixed with potsherds in sufficient quantity to keep the peat open and from becoming retentive of moisture. Shading during summer requires to be attended to; and in winter, care must be taken that the plant does not suffer from any excess of atmospheric moisture. *J. S.*

Fig. 1. Column. 2. Pollen-masses :—*magnified.*

1.

2.

3.

Fitch del et lith

R.B. & R. imp

Tab. 4477.

DENDROBIUM tortile.

Twisted-petaled Dendrobium.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4352.)

Dendrobium *tortile*; caulibus clavatis articulatis sulcatis vaginatis, foliis linearibus retusis subcoriaceis, pedunculo bifloro, sepalis oblongis acutiusculis undulatis tortilibus (petalis conformibus) 2 lateralibus in calcar retusum decurrentibus, labello magno pubescenti-villoso obovato-cochleariformi basi intus pulvinato.

Dendrobium tortile. *Lindl. in Gardener's Chron.** 1847. *p.* 797. *cum. Ic. not All. Cunn.*

A native of Moulmain, imported by Messrs. Veitch through their collector Mr. Thomas Lobb, exhibited at the Horticultural Society's rooms in May 1847, and presented to the Royal Gardens of Kew in April 1849. It produced its handsome and long-lived flowers in May. We adopt the name by which we have received it, for it is an expressive one, and the *D. tortile* of Allan Cunningham mentioned by Dr. Lindley in Bot. Reg. 1839, Suppl. n. 31, is considered by the latter to be probably a *Polystachya*, and is, as far as I know, nowhere described.

Descr. Our present plant exhibits no beauty in its stems or foliage. The former (on *pseudo-bulbs*) are about a span long, and club-shaped, jointed, sulcated, and for the greater part sheathed with pale brown, striated *scales*. The *leaves* are wholly confined to the yet unformed pseudo-bulbs, two or three in number, linear, channelled, retuse, subcoriaceous, obscurely striated. From near the apex of the old leafless pseudo-bulbs the peduncle appears, short, two-flowered. *Ovary* long, pedicelliform, purple. *Flowers* large, handsome. *Sepals* and *petals* uniform, oblong, spreading,

* It is only since this page was in type that Mr. Veitch has referred me to the 'Gardener's Chronicle' for the name and figure; from which it will be seen that our representation is a very unfavourable one, for that six flowers are produced at one time on the pseudo-bulb.

white, delicately tinged with purplish rose, waved and spirally twisted (whence the name): the two lateral ones decurrent into a distinct emarginate blunt *spur*. The *lip* is large, projecting forward, conchiform, or rhomboido-obovate, concave, membranous, slightly unguiculate, pubescent, faintly veined above and below, the margin entire, the sides near the base obscurely lobed: the *colour* lemon-yellow, with a slight tinge of purple: the base streaked with dark purple. The *claw* is occupied by a downy *tubercle* or *callus*. *Column* very short, green, decurrent to the base of the lip and forming the spur. *Anther-case* purple. *W. J. H.*

Cult. This fine species of *Dendrobium* belongs to a group of the genus characterized by short, somewhat tumid pseudobulbs. Judging from our plant it appears to be of a rather weakly habit; but its beautiful flowers render it interesting in every collection of Orchids. Like the greater number of the genus it is epiphytal on trees, and, being a native of the hot and moist climate of Java, it requires to be grown in the warm Orchideous house. An average temperature of 75° in summer and 65° in winter will be congenial to it; taking care, during the winter months, that it does not suffer from moisture, and shading, or placing it in such a position that it does not receive the direct rays of the mid-day sun, in summer. To imitate its epiphytal manner of growth, it should be attached to a block of wood suspended in a nearly horizontal position, or on a sod of compressed sphagnum moss. The latter we prefer, on account of its being free from the evils arising from the use of wood: the hot and moist atmosphere of the Orchideous house soon brings the wood into a state of decay, forming a harbour for insects and congenial to the development of Fungi; the mycelium of some species of the latter overrunning the surface of the block, bringing it into a state ungenial to the roots of the Orchid. Probably the best preventative to the growth of fungi is to previously char the blocks of wood; but in time the charring loses its virtue; and another objection to the use of charred blocks is their unpleasant appearance to the eye. *J. S.*

Fig. 1. Column. 2. Lip. 3. Pollen-masses:—*magnified.*

Fitch del et lith.

Reeve Benham & Reeve imp

Tab. 4478.

RHODODENDRON Clivianum.

Duchess of Northumberland's Rhododendron.

This is one of a very remarkable set of hybrid *Rhododendrons* produced by the care and skill of Mr. Iveson, head gardener at Syon, and it was named by Dr. Lindley at the exhibition-rooms of the Horticultural Society, in compliment to Her Grace the Dowager Duchess of Northumberland, who feels equal pride with her late noble and lamented husband in the floral treasures of Syon Gardens, and especially in the rare exotic fruits which have there been reared with such eminent success.

We figure this as an example of what we are disposed to consider the most delicate and beautiful kind of *Rhododendron* yet in cultivation.

Cult. This fine plant is a hybrid, believed to be produced between *Rhododendron Catawbiense* and the white variety of *Rhododendron arboreum*. It is a strong growing variety, well adapted for forming standards. It is perfectly hardy, but unfortunately, like the other known hybrids from *Rhododendron arboreum*, it flowers too early for this climate, being apt to have its flowers destroyed by late spring frosts; but, as it makes a fine appearance, it is well worthy of protection while in flower. So long as the plants are of a moderate size, they may be taken up before coming into flower and planted in suitable sized pots, placing them in the green-house, where they will make a fine appearance; again planting them out after having done flowering. *J. S.*

November 1st, 1849.

Ellen. del et lith.

R. B. & R. imp.

Tab. 4479.

CYCHNOCHES BARBATUM.

Bearded Cychnoches.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4215.)

Cychnoches *barbatum*; pseudo-bulbo ovato compresso demum nudo apice folioso, folio solitario elliptico-oblongo utrinque attenuato plicato, racemo radicali longe pedunculato, pedunculo ovariisque pilosis, sepalis petalisque conformibus lanceolatis patentissimis, labelli facie superiore barbato, hypochilio alte alato, epichilio cordato-ovato obscure trilobo subreflexo.

Cychnoches barbatum. *Lindl. MSS.*

From Mrs. Lawrence's rich collection at Ealing Park, recently imported from Costa Rica.—A singular and handsome plant, referred to *Cychnoches* by Dr. Lindley, but which appears to me almost to connect *Gongora* with that very sportive genus:—indeed, but for the free column (not bearing the upper sepal), I should have had little hesitation in referring it to the latter genus.

Descr. A young *plant* scarcely exhibits a *pseudo-bulb* at all, only several, imbricating, leafy *scales*, terminated by an oblong-oval, acuminated, plaited *leaf*. When the leaf is fully developed the almost naked *pseudo-bulb* appears, ovate, compressed, green, smooth, with the withered scales at the base. *Scape* from the base of the pseudo-bulb, a foot long, dark purple, pubescent or hairy, jointed, sheathed with scales at the joints: this is terminated by a drooping many-flowered *raceme*, a foot long, of which the *rachis* and pedicel-like ovaries are dark-purple and hairy. *Flowers* moderately large, at first sight a good deal resembling those of *Gongora maculata*, but larger. *Sepals* and *petals* alike, very spreading, almost reflexed in the opposite direction from the column, narrow-lanceolate, acute, dull yellow, spotted with purple. *Lip* pendent (almost at right angles with the ovary), formed into two portions as it were, and very hairy or bearded on the upper surface, white, tinged with yellow, and elegantly spotted with deep blood-colour: the lower or *hypochilium* is

unguiculate, with two large wings at the upper extremity, and, if seen beneath, a small tooth between the wings is observed; and here on the upper surface the *epichilium* is jointed upon the *hypochilium*: the former is cordato-ovate, obscurely three-lobed, a little reflexed. *Column* very long, slender, arched, semi-terete, enlarged upwards and cucullate just below the helmet-shaped *anther-case*. *Pollen-masses* two, club-shaped, with a long spathulate *caudicle*. *W. J. H.*

Cult. Our knowledge of this singular plant is yet too limited to enable us to state the best mode of cultivating it, but judging of it by its affinity with *Gongora*, *Mormodes*, &c., it may be grown in turfy peat in pots well drained and kept in the cool division of the Orchideous house, especially during winter when the plant is in a state of rest; at which time it should receive little or no water, but when it begins to show symptoms of commencing to grow it should then receive the stimulus of heat and moisture, placing it near the glass and shading it from the mid-day sun in summer. *J. S.*

Fig. 1. Flower deprived of the sepals and petals. 2. Column, front view. 3. Pollen-masses :—*magnified*.

Fitch del et lith.

R. B. & R. imp.

Tab. 4480.

ESPELETIA argentea.

Silvery Espeletia.

Nat. Ord. Compositæ.—Syngenesia Superflua.

Gen. Char. Capitulum multiflorum monoicum, *fl. radii* numerosissimis, disci tubulosis 5-dentatis bisexualibus, abortu masculis. *Involucrum* campanulatum imbricatum polyphyllum. *Recept.* planiusculum paleaceum, paleis membranaceis obtusis. *Antheræ* exsertæ. *Stylus* radii bifidus gracilis, disci simplex. *Achænia* obovata subangulata calva, disci verosim. abortiva.—Herbæ *æquinoct. Americanæ dense lanato-tomentosæ resinosæ perennes.* Folia *opposita integra.* Capitula *ramos terminantia corymbosa lutea. De Cand.*

Espeletia *argentea*; dense pulcherrime sericeo-tomentosa, caule brevi crasso foliaceo demum florifero elongato nudiusculo paniculato corymboso bracteato, foliis elongato-lanceolatis nervis obliquis, capituli radiis vix involucrum superantibus.

Espeletia argentea, *Humb. et Bonpl. Pl. Æquinoct. v.* 2. *p.* 15. *t.* 71. *De Cand. Prodr. v.* 5. *p.* 516.

Cultivated in the greenhouses both of the Royal Gardens of Kew, and at Syon, at which latter place it flowered in the summer of 1848. The seeds were sent in 1845 from the Paramo of Siejo, New Granada, by Mr. Purdie, who says it is there called "*Frailejon.*" The whole plant has a peculiar and certainly somewhat terebinthine odour, and yields, like the genus *Silphium* (to which *Espeletia* is allied in essential characters) a copious gum-resin, used in the preparation of ink and for other purposes. M. Bonpland seems to have omitted the rays of the capitula in his figure, though he expressly says in the description "fleurs radiées." In other respects the figure and description sufficiently accord with our plant.

Descr. This is really a beautiful and remarkable plant, and a stately one when in flower, attaining then the height of five or six feet. Before flowering, however, the appearance is very different. A plant of three or four years old has a trunk six or eight inches high and as thick as one's wrist, rather bare below,

but the rest forming a crown of dense spreading *leaves* a foot and more long, spreading all round like those of an Aloe. *Leaves* narrow-lanceolate, densely silky and strigose on both sides. At the flowering season the apex of the trunk lengthens out into an upright densely silky, nearly leafless, corymboso-paniculate stem. There are a few leaves at the base, but these gradually pass into linear *bracteas*, and those again seem insensibly to merge into the *involucral leaves*. *Capitula* moderately large, yellow, the *disk* inclining to brown. *Florets* all subtended by a ligulate membranaceous scale: those of the *ray* ligulate, very numerous, compact, three-toothed, rather short in proportion to the disk. *Ovary* oblong, triangular, naked (no pappus). *Style* thrice as long as the tubular portion of the corolla, branches linear-subulate. *Florets* of the *disk* male (in all as far as I could see) five-toothed. *Stamens* a little protruded beyond the mouth of the corolla. *W. J. H.*

Cult. This singular-looking plant is a native of the mountains of New Granada, and was observed by Mr. Purdie to ascend nearly to the limit of perpetual snow, at an altitude where, on account of the diminished weight of the atmosphere, he found the cold very piercing, much more intense to the feelings than was indicated by the thermometer. He describes the old specimens as bearing a resemblance to posts about three feet high, covered with wool, and having a tuft of leaves on the top. Growing under such circumstances, the plant may be expected to prove tolerably hardy in this climate, but on account of its soft woolly nature it is liable to suffer from wet and damp. We therefore consider it best to keep it in a dry and airy part of the greenhouse, and, during damp weather in winter, to give it just sufficient water to keep the soil in a moderately moist state, wetting the woolly leaves as little as possible. A light sandy peat soil suits it; the pot being well-drained in the usual way, and in summer being placed in a position so that the sun's rays do not fall on the side of the pot. It will continue to be a scarce plant, as the only specimen that has flowered in this country has not ripened seeds, and the plant does not readily produce side-shoots. *J. S.*

Fig. 1. Floret of the ray with its scale. 2. Floret of the disk and scale:—*magnified.*

4481.

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Fitch del. et lith.

R.B. & R. imp.

Tab. 4481.

BRACHYSEMA APHYLLUM.

Leafless Brachysema.

Nat. Ord. Leguminosæ.—Decandria Monogynia.

Gen. Char. *Calyx* 5-fidus inæqualis tubo ventricoso. *Cor.* vexillo petalis cæteris breviore, *alis* carinæ compressæ æqualibus. *Ovarium* pedicello basi vaginulo fisso. *Stylus* filiformis elongatus. *Legumen* ventricosum polyspermum. *De Cand.*

Brachysema *aphyllum*; ramis ancipiti-compressis alte alatis aphyllis, loco foliorum bracteis ovato-subulatis coloratis, floribus solitariis brevi-pedunculatis, calyce profunde subæqualiter 5-lobo, lobis linearibus carinam $\frac{2}{3}$ æquantibus.

We depart here from our ordinary course, in representing a plant not yet actually in cultivation, and figured from dried specimens aided by a coloured drawing made from the recent plant at the Swan River settlement, in the interior of which colony it is a native; and whence seeds as well as dried specimens have been sent by Mr. Drummond. We do not understand that any have yet germinated: but we are desirous to make known so interesting a plant, which we cannot doubt will ere long adorn our greenhouses with its beautiful winter or early spring flowers. We were, at first, disposed to consider it a new genus, but we adopt Mr. Bentham's views of its forming a group of *Brachysema*, of which another species, *B. præmorsum*, Meisn., from the same country, has an exactly similar calyx and corolla. *Cryptosema* of Meisner (*Jansonia*, Kippist) is a nearly allied plant, but with the two superior lobes of the calyx extremely short.

Descr. Apparently a small *shrub*, quite destitute of leaves, with the *branches* singularly compressed and winged with broad wings margined with red on the two opposite sides, dark green, the wings here and there with alternate teeth, upon which is a *stipule*, but no leaf: or this stipule becomes a *bractea*, when from the same point within a short single-flowered *peduncle*

appears. *Flower* (always) reversed. *Calyx* large, obscurely two-lipped, with five nearly equal, linear, erect segments. *Corolla* at first orange sprinkled with red, afterwards deep red or blood-coloured. *Vexillum* very small, ovate, reflexed: wings shorter than the carina; the latter being very large and (as seen inverted) covering nearly the whole length of the stamens. *Stamens* ten: *filaments* long, free, equal: *anthers* oblong. *Ovary* linear-oblong, downy, gradually tapering into a long *style*. *Fruit* oblong, acuminate, downy, two-valved: in our specimens the seeds have fallen out. *W. J. H.*

Cult. As this plant is not yet known to us in a living state in this country, we can only infer from its relationship the kind of treatment that may be suitable for its successful cultivation. Being a native of the Swan River Colony in Western Australia, it will require the protection of the greenhouse in winter. It belongs to a tribe of *Leguminosæ*, which in that country generally inhabit poor dry soils; and on account of their appearance in the aggregate they compose a great part of what is termed *bush* or *scrub*, but which, nevertheless, comprehends many of our most beautiful greenhouse plants. This species may be expected to thrive if grown in rough peat soil, mixed with a portion of sharp sand, the pot being well drained so as to prevent the chance of the soil becoming stagnant; care being taken during hot weather in summer that it is placed in a shady place, especially in such a manner as not to allow the sun to heat the sides of the pot, since direct heat from the sun transmitted through the substance of the pot proves injurious to the fine fibrous roots in immediate contact with it. It is to be observed that these precautions are only necessary to plants cultivated in pots; for New Holland plants, when planted in the open ground, thrive during our summer without shade; and if the season is so far favourable as not to have early frosts, they will continue to flourish till Christmas, or later, provided (as in some seasons) the thermometer does not fall any night more than two or three degrees below the freezing point; for we have observed that many New Holland plants (extra-tropical) do not suffer from cold so long as there is no actual frost. They appear to luxuriate during the cool and most autumnal months of this climate, many becoming handsome bushes, much to be regretted when at last destroyed by frost. *J. S.*

Fig. 1. Vexillum. 2. One of the wings. 3. Carina. 4. Stamens and pistil. 5. Pistil:—*magnified.*

Fitch del. et lith.

R.B. & R. imp.

Tab. 4482.

IXORA laxiflora.

Lax-flowered Ixora.

Nat. Ord. Rubiaceæ.—Tetrandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4325.)

Ixora *laxiflora*; foliis oblongo-lanceolatis acuminatis basi in petiolum perbrevem attenuatis, stipulis ovatis acuminatis ramo angustioribus, panicula corymbosa ampla laxissima foliis longiore, ovario globoso (rubro), calycis limbo 4-dentato erecto appresso, corollæ tubo gracillimo lobis convexis obovatis patentibus in disco barbatis triplo brevioribus, antheris linearibus patentissimis corollæ lobos æquantibus, stylo exserto, stigmate bifido.

Ixora longiflora. *Sm. in Rees Cycl. v.* 19. *n.* 8. *De Cand. Prodr. v.* 4. *p.* 489. *Benth. in Niger Flora, p.* 414.

Ixora brachyloba. *De Cand. Prodr. v.* 4. *p.* 488.? *Benth. l.c. p.* 413?

A native of Sierra Leone, first described by Sir Jas. E. Smith, recently introduced by Mr. Whitfield to our stoves. Our specimen of this delicate and very sweet-scented plant was communicated by Messrs. Lucombe, Pince, and Co., of the Exeter Nursery, and it is well worthy of general cultivation, for it has handsome foliage and flowers, while small, which are great recommendations as well as the fragrance.

Descr. *Shrub* three to four feet high. *Leaves*, the largest, a span in length, oblong-lanceolate, acuminate, penninerved, attenuated at the base into a very short petiole. *Stipules* ovate, acuminate, appressed, narrower than the branch which bears them. *Panicle* terminal, large, and singularly trichotomous, subcorymbose. *Flowers* very fragrant. *Calyx* deep red; the *tube* (or *ovary*) globose, red: the free portion or *limb* is very small, and cleft into four erect, appressed teeth. *Corolla* white tinged with pink: the *tube* an inch and a half long, slender: the limb cut to the base into four spreading obovate segments, hairy in the disk. *Filaments* very short: *Anthers* quite exserted, linear, as long as the lobes of the corolla and equally spreading with them. *Style* exserted. *Stigma* clavate, bifid. *W. J. H.*

Cult. A native of the hot and moist climate of Java, there-

fore requiring to be grown in a warm hothouse. A mixture of light loam and leaf-mould will suit it, and in order to induce it to grow freely it should be placed in bottom heat, and in a moist atmosphere. As it is a slender upright-growing species, it is advisable to stop the leading shoot, in order to encourage the plant to produce a greater number of lateral flowering branches. It strikes readily from cuttings planted under a bell-glass, and placed so as to receive bottom heat. *J. S.*

Fig. 1. Flower :—*magnified.*

Ehten del et lith.

R.B. & R. imp.

Tab. 4483.

BEGONIA CINNABARINA.

Cinnabar-flowered Elephant's Ear.

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4172.)

Begonia *cinnabarina*; puberula, caule elongato tereti folioso, foliis breviusculo-et crasso-petiolatis amplis oblique ovatis sinuato-lobatis duplicato-serratis, pedunculis elongatis rubris, floribus inter majores totis pedicellisque cinnabarinis, masc. 4- fœm. 5-sepalis obovatis, capsulis subgloboso-triquetris, alis 2 subobsoletis tertia longiuscule producta.

For this extremely handsome species of *Begonia* we are indebted to Messrs. Henderson of Pine Apple Place, who raised it from seeds sent by Mr. Bridges from Bolivia. The contrast between the green stem and darker green leaves, with the deep bright red of the long and stout peduncles and stipules, together with the red or rather deep large cinnabar-coloured flowers, is very striking, and renders this, I think I may say, the most desirable of all the species for cultivation: add to which, it blooms very freely in an ordinary stove (I suspect it would do so in a greenhouse) and continues long in flower.

Descr. *Stem* erect, but zigzag, stout, terete, succulent, pale green, slightly downy, as are the leaves and petioles. *Leaves* on rather short, stout, terete, green *petioles*, from four to six or seven inches long, obliquely ovate, subplicate (the young ones very plicate and edged with red) sinuate or lobed at the margin and doubly serrated, the minute teeth red. *Stipules* ovate, membranaceous, acuminate, red. *Peduncles* a span and more long, rather stout, terete, deep and bright red, bearing a *panicle* (in our specimen) of six large handsome *flowers*, which, as well as the ovaries and pedicels and ovate *bracts*, are rather pale-red or deep cinnamon colour. The ultimate *pedicels* are ternate, drooping, of which the central flower is male, the lateral ones female. *Male fl. Petals* four, broadly obovate, spreading. *Sta-*

mens very numerous, dense, orange-coloured. *Female fl. Petals* five, rather smaller than those of the male. *Ovary* and *capsule* subglobose, with three longitudinal angles, two of the angles with small wings, the third with a somewhat triangular projecting wing : wings red. *W. J. H.*

Cult. The genus *Begonia* contains upwards of 140 described species, natives chiefly of the tropical regions of Asia and America, none, it is said, being found in Africa. They are characterized by a succulent texture, and many of them are of an epiphytal nature. Some have upright or climbing suffruticose stems ; others have creeping stems analogous to a rhizoma ; a few have tuberous roots, and a few are annuals. Many of them bear handsome flowers, which, with their peculiar and various-shaped foliage, and the ease with which the plants are cultivated, have caused them to become favourites in our hothouses. The present very beautiful species belongs to the division with tuberous roots ; and as these lie in a dormant state during winter, they require to be placed so as not to receive more moisture than will keep the mould from becoming absolutely dry. For spring they should be repotted, using a mixture of light loam and sandy peat soil, and set in a warm pit or hothouse, placing the pot near the glass, and care being taken not to give much water till the plant has made some progress in growth. *J. S.*

Fig. 1. Ovary or young fruit :—*magnified*.

Fitch del et lith.

Tab. 4484.

TABERNÆMONTANA LONGIFLORA.

Long-flowered Tabernæmontana.

Nat. Ord. Apocyneæ.—Pentandria Monogynia.

Gen. Char. Calyx 5-partitus (in *T. coronaria* 5-fidus); lobis æstivatione quincunciali, 2 exterioribus, glandulis linearibus, 4–7, basi cujusque lobi vel paulo supra basim adfixis, verticillatis. *Corolla* hypocraterimorpha, *tubo* inferne, medio vel superne inflato sæpius medio angustiore, exappendiculato, fauce nuda, raro glandulosâ; *lobis* obtusis, æstivatione marginibus dextrorsum convolutis apiceque replicatis. *Stamina* parte inflata tubi corollæ inserta; filamentis brevissimis aut nullis, *antheris* sæpius sagittatis longe acuminatis, rarius linearibus, plerumque inclusis. *Nectarium* nullum. *Ovaria* 2, adpressa, glabra. *Stylus* unicus, basi interdum prope ovaria duplex, glaber. *Stigma* antheris proximum, basi plerumque annulatum, medio cylindraceum vel tuberculis auctum, apice bilobum (an raro simplex?) *Fructus* 2, vel abortu solitarii, lineari-oblongi, oblongi vel subglobosi, plus minus carnosi, pulposi, divaricati, nervis longitudinalibus paucis. *Ovula* ∞, amphitropa. *Semina* pauca vel plurima, intra pulpam cellulosam nidulantia, quasi arillo colorato tecta?, obovoidea, pressione mutua angulata; *hilo* depresso sulcato longitudinali; *testa* longitudinaliter striata; *albumine* carnoso; *cotyledonibus* foliaceis apice curvatis, radiculam rectam æquantibus, hilo parallelis, radicula supera, cylindrica.—Arbores *vel* frutices *intertropicales*: ramis *sæpius dichotomis*; foliis *oppositis, altero sæpe minore, integris, plerumque glabris*, petiolis *brevibus in stipulas falsas intrapetiolares basi expansis vel connatis*, glandulis *præterea axillaribus et nunc lateralibus*; cymis *axillaribus, plerumque geminis apice ramulorum*; floribus *albis vel luteis. Alph. DC.*

Tabernæmontana *longiflora*; glabra, foliis oblongo-ellipticis abrupte acuminatis basi acutis, petiolis basi dilatatis, pedunculis laxe subtrifloris, calycis lobis ovali-oblongis, corollæ tubo longissimo paullo infra medium ventricoso contorto et staminifero. *Benth.*

Tabernæmontana longiflora. *Benth. in Niger Flora, p.* 447.

A new and valuable acquisition to our stoves, recently imported by Messrs. Lucombe, Pince, and Co., Exeter Nursery, from Sierra Leone, through Mr. Whitfield. The shrub has close-placed, ample, dark green foliage, and remarkably large white or pale cream-coloured flowers, diffusing a delicious aromatic fragrance, resembling that of cloves. Dr. Vogel, who also found the plant at Sierra Leone (as did Heudelot at Senegambia), speaks of this shrub as very handsome, with the aspect of a

Citrus, and yielding a milky juice. Mr. Bentham observes that it will, along with his *T. crassa* (Niger Fl.), *T. Africana*, Hook., and *T. ventricosa*, Hochst., constitute a natural group of the genus, nearly allied to *Voacanga*, P. Th.

Descr. An erect branching *shrub*: the young *branches* green, terete. *Leaves* elliptical, large, with a short acumen, and a short but dilated *petiole*; the nerves diverging almost horizontally from the midrib. *Peduncles* erect, stout, each bearing about three large white *flowers*. *Calyx-lobes* broadly oval, obtuse: at their base is a circle of minute glandular *scales*. *Corolla* with the tube twisted, four inches in length, swollen below the middle: *limb* of five waved or reflexed ligulate lobes. *Stamens* and *style* as in the genus and included. *W. J. H.*

Cult. A tropical shrub, requiring a warm stove. It will thrive in a mixture of loam and peat soil, if placed so as to have the benefit of bottom heat, and watered and syringed freely during the summer; but care should be taken that at no time (especially during its season of rest) the mould becomes saturated; for the soft and slightly succulent roots are apt to suffer if kept in too wet a state while the plant indicates a cessation of growth; and during that period it should be removed to a drier atmosphere. It will strike from cuttings placed under a bell-glass, and treated in the usual way for the propagation of tropical woody plants. *J. S.*

Fig. 1. Pistil. 2. Calyx-lobe with scales at the base. 3. Stamen. 4. Portion of the tube of the corolla, laid open to show the stamens, style, and stigma: —*magnified.*

Fitch del et lith.

Reeve Benham & Reeve, imp

Tab. 4485.

CLERODENDRON Bethuneanum.

Captain Bethune's Clerodendron.

Nat. Ord. Verbenaceæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4255.)

Clerodendron *Bethuneanum*; elatum fruticosum, ramis 4-sulcatis, foliis amplissimis cordatis acuminulatis obscure serratis glabris basi profunde bilobis subtus sparse lepidotis, paniculis terminalibus maximis thyrsoideo-pyramidatis bracteatis, bracteis lineari-spathulatis coloratis, calycibus magnis conicis acute 5-angulatis, limbo erecto 5-lobo, corollæ (coccineæ) tubo calycem vix superante, limbo 5-lobo inæquali obliquo lobis oblongis obtusis reflexis superiore longiore basi albo, staminibus longissimis.

Clerodendron Bethuneanum. *Lowe in Hist. of Borneo, and in Hook. Bot. Mag. Comp.* (1848) *v.* 74. *p.* 30.

Whoever had the gratification of seeing the superb panicle of flowers of this *Clerodendron* in the stove of Messrs. Lucombe, Pince, and Co., of Exeter Nursery, in the month of September of this year, with the equally large and striking foliage, could form some idea of the treasures yet to be expected from the researches of Mr. Lowe, jun., in Borneo. Nor is the charm of this plant confined to the general aspect alone. Each flower is exceedingly beautiful in itself: peduncles, pedicels, bracts, calyx, corolla, the very long and graceful stamens, all are of the deepest crimson, while the two side-lobes of the corolla have a purple spot near the base (not easily represented in the figure) and the upper lobe has a much larger white spot. "Four species of *Clerodendron*," Mr. Lowe, jun., says, in the work above quoted, "adorn the banks of the Sarãwak river: two of them, which are fragrant, bear white flowers, another is scarlet, and another crimson. The latter is the handsomest: it forms a shrub ten feet high, each branch terminated by a large lax panicle three feet long, of rich crimson blossoms, forming, with the equally crimson bracts and branches, a magnificent pyramid of bloom, every flower relieved by its white centre and protruding stamens; the foliage is likewise ornamental, being large, dense, and heart-shaped." "This *Clerodendron*," Mr. Lowe continues, "which now grows well in England, has been named after Capt. Bethune, R.N., who brought it and several other fine plants from Borneo.* When its flowering season is past, the *C. Bethuneanum* does not lose all its charms; for the crimson bracts and calyces persist,

* Amongst them the noble *Nepenthes Rafflesiana*, figured in our Bot. Mag. t. 4285.

and the latter contain, each, a four-seeded berry of the richest blue colour."

We are indebted to Messrs. Lucombe, Pince, and Co., for the splendid specimen, of which but a very small portion can be introduced into our plate.

Descr. Although in its native country attaining a height of ten feet, it is one of those plants that flower readily when but of small size and confined in a pot. The whole is glabrous. The *branches* green, streaked with purple, marked with four furrows, hence four-angular, with the angles very obtuse. *Leaves*, the lower ones, on long *petioles*, very large, twelve to fourteen inches each way (in length and breadth), exactly cordate, acuminulate, with a deep sinus at the base, the margin obscurely toothed or serrated, the texture rather soft, the underside studded with minute scattered scale-like dots (lepidota). The upper leaves become gradually smaller and pass into *bracts*. *Panicles* large, lax, terminal, forming a pyramidal thyrsis two to three feet long; *peduncles* and *pedicels*, as well as the entire ground-work of the *flowers*, crimson; *bracts* lanceolato-spathulate, crimson (the lower ones broader). *Calyx* large, inflated, conical, with sharp angles, almost winged at the angles; the *limb* of five, sharp, erect teeth. *Tube* of the *corolla* but little longer than the calyx: *limb* oblique, of five spreading, soon recurved, oblong *lobes*, of which the lateral ones have an intense purple spot at the base, and the upper and rather longer and larger lobe a pure white spot occupying the lower half of the lobe, and partially divided by a red line. *Ovary* four-lobed: *style* long, filiform: *stigma* bifid. *Filaments* of the *stamens* nearly four inches long, inclined down, but slightly curving upwards: *anthers* small, dark greenish-grey.

Cult. *Clerodendron* is an extensive genus of soft-wooded tropical plants of various habits, a few of the species recommending themselves to our notice on account of their handsome flowers; the species figured is one of these. In order to produce a handsome head of flowers it is advisable to select a young healthy plant early in the season, and encourage it to rapid growth by giving it the usual stimulants of heat and moisture, and growing it in a tolerably rich soil. This may consist of light loam, mixed with a portion of leaf-mould or other vegetable manure; the pot being well drained, so as to allow of watering freely without the risk of the soil becoming saturated, which a rich soil is apt to do if carelessly watered, especially after shifting the plant into a larger pot, before the roots penetrate into the fresh soil. Shading in summer for a few hours in the middle of the day will be necessary, especially if the roof of the house has a south aspect and is of a light construction. It may be propagated by cuttings planted under a bell-glass, and placed in any warm part of the stove. *J. S.*

LATIN

GENERAL INDEX,

TO

THE PLANTS CONTAINED IN THE LAST SEVEN VOLUMES OF THE NEW SERIES,

(Or from Vol. LXIV. to LXX. inclusive, of the whole Work,)

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65	3678	Arthrostemma versicolor.
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ENGLISH

GENERAL INDEX,

TO

THE PLANTS CONTAINED IN THE LAST SEVEN VOLUMES OF THE NEW SERIES,

(Or from Vol. LXIV. to LXX. inclusive, of the whole Work,)

OF THE

BOTANICAL MAGAZINE.

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68	3953	—— sweet-scented.
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74	4368	Hogmeat, poison.
74	4402	Hoya, beautiful.
74	4347	—— cinnamon-leaved.
74	4397	—— imperial.
72	4253	Hydrangea. Japan; blue flowered *var.*
74	4346	Hypocyrta, shining-leaved.
73	4310	—— white-mouthed.
72	4245	Indian Cress, notch-petaled.
73	4323	—— showy.
73	4337	—— umbellate.
73	4301	Ipomæa, fine-leaved.
73	4305	—— handsome.
72	4206	—— simple-stalked.
74	4372	Isopogon, attenuated-leaved.
73	4332	—— round-headed.
71	4191	Ixora, fragrant.
74	4399	—— lance-leaved.
73	4325	—— Mrs. Griffiths'.
74	4376	Jatropha, gouty-stalked.
74	4400	Jericho, rose of.
72	4220	Kopsia, shrubby.
72	4234	Lady's Slipper, bearded.
73	4302	Lælia, cinnabar-coloured.
71	4169	Leianthus, long-leaved.
72	4243	—— umbellate.
74	4393	Leuchtenbergia, noble.
73	4314	Leucothoe, elegant.
73	4265	Leschenaultia, drooping.
72	4256	—— splendid scarlet flowered.
73	4315	Liebigia, showy.
73	4324	Lisianthus, sharp-angled.
71	4150	Lobelia, Mullein-like.
72	4257	Lotus, tooth-leaved.
71	4132	Luculia, Mr. Pince's.
71	4193	Lycaste, tawny-flowered.
71	4149	Lycium, Fuchsia-flowered.
72	4273	Lyonia, Jamaica.
73	4334	Malachadenia, club-stalked.
74	4365	Malacophylla, soft-leaved.
74	4358	Mamillaria, club-shaped.
74	4408	Maple-Apple.
73	4299	Marsdenia, spotted-leaved.
73	4292	Martynia, fragrant.
71	4164	Masdevallia, windowed.
72	4228	Maxillaria, large splendid.
72	4235	—— Mr. Warre's.
74	4374	Maxillaria, needle-leaved.
73	4321	Medinilla, showy.
72	4204	Miltonia, showy.
72	4214	Mormodes, Carton's.
74	4387	Napoleona, imperial.
74	4384	Nasturtium, Sir James Smith's.
71	4138	Nightshade, large-flowered.
73	4282	Niphæa, white-lined.
71	4148	Oncidium, two-warted.
72	4272	Odontoglossum, halberd-leaved.
74	4357	Orothamnus, Mr. Zeyher's.
74	4367	Oxypetalum, Solanum-like.
74	4406	Passion-flower, white-crowned.
74	4368	Pelican-flower.
73	4319	Peristemon, Mr. Gordon's.
71	4156	Peristeria, or Dove-flower; Humboldt's; tawny-flowered *var.*
73	4289	Pharbitis, purging.
71	4173	Phyllarthron, Mr. Bojer's.
72	4262	Pleroma, elegant.
74	4412	—— Prof. Kunth's.
71	4142	Pleurothallis, double-keeled.
72	4241	Pitcairnia, broad-waved-leaved.
73	4285	Pitcher Plant, Sir Stamford Raffles'.
71	4161	Polystachya, bracteated.
71	4176	Porphyrocoma, lance-leaved.
74	4356	Primrose, Stuart's.
73	4280	Purga, or True Jalap.
73	4309	Puya, Attenstein's gigantic *var.*
71	4199	Reevesia, thyrse-flowered.
73	4336	Rhododendron, Javanese.
74	4381	—— Neelgherry.
71	4198	Rhynchoglossum, Ceylon.
74	4400	Rose of Jericho.
71	4147	Ruellia, lilac-flowered.
73	4298	—— Mr. Purdie's.
73	4318	Sage, white-flowered.
71	4196	Scævola, attenuated-leaved.
74	4360	Sida, entire-leaved.
71	4134	—— heavy-scented.
71	4170	—— Pæony-flowered.
72	4227	—— vine-leaved.
72	4212	Sinningia, velvety.
74	4403	Siphocampylos, manettia-flowered.
72	4331	—— glandular.
71	4178	—— showy scarlet-flowered.
73	4286	—— small-mouthed.
72	4268	Skull-Cap, flesh-coloured.
73	4299	—— heart-leaved.
72	4271	—— Ventenat's.
71	4154	Slipper-wort, copious-flowering.
74	4364	Smeathmannia, downy.

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71	4194	Smeathmannia, smooth-stalked.
73	4283	Smithia, purple-flowered.
74	4345	Solandra, smooth-leaved.
74	4394	Sonerila, upright.
71	4197	Stanhopea, tiger-spotted.
72	4263	Stenocarpus, Mr. Cunningham's.
71	4167	Strelitzia, great white.
71	4168	Strelitzia, great white.
74	4366	Strobilanthes, milky-leaved.
74	4416	Swainsona, Grey's.
72	4215	Swanwort, Mr. Loddige's.
71	4187	Tacsonia, downy-leaved.
72	4251	Talauma, De Candolle's.
74	4383	Tetrazygia, Elæagnus-like.
72	4239	Theophrasta, Jussieu's.
73	4303	Thibaudia, beautiful.
73	4344	—— Pichincha; glabrous *var.*
74	4378	Thyrse-flower, upright.
73	4288	Tillandsia, bulbous; coloured *var.*
72	4249	Torenia, large-flowered.
72	4229	—— purple-blotched.
73	4335	Tritonia, golden.
71	4158	Trumpet-Flower, scarlet.
71	4137	Turnera, Elm-leaved.
73	4334	Vanda, crested.
72	4211	Vervain, Bastard, aristate.
72	4269	Virgin's Bower, or Clematis, tubular-flowered.
74	4415	Vriesia, glaucous-leaved.
74	4382	—— showy.
73	4275	Water-Lily, great Victoria.
73	4278	Water-Lily, great Victoria.
74	4396	Weigela, rose-coloured.
71	4155	Whitfieldia, brick-coloured.